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THE STONE AND
BRONZE AGES IN ITALY
AND SICILY

BY
J. H. STUBBS

EDITED BY
J. H. STUBBS

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THE STONE AND BRONZE AGES IN ITALY AND SICILY

BY
T. ERIC PEET

CRAVEN FELLOW IN THE UNIVERSITY OF OXFORD

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PREFACE

FOR attempting to give to English readers an account of the prehistoric civilizations of Italy no apology can be needed: it has too long been the cry of our archaeologists that no such attempt has been made. For carrying out the task in a manner much less complete than might have been desired I can only plead that circumstances have required its completion within a short and limited time. Naturally a considerable part of the book consists in the presentation in an English form of work already done by Italian archaeologists. The appearance in the *Bullettino di Paletnologia Italiana* of Professor G. A. Colini's three magnificent brochures on the palaeolithic, eneolithic and bronze ages respectively, marks a new era in the study of Italian prehistoric archaeology, and any later work on the same periods must in some sense be based upon them. I have therefore had not the slightest hesitation in adopting the main lines of Professor Colini's classification of the material of the three periods in question, at the same time making the necessary modifications required by later discoveries.

The literature of the subject is very considerable and widely scattered. Those who require a short summary of the prehistoric periods in Italy will read Pigorini's article, *Le più antiche civiltà dell' Italia*.¹ Those who are interested especially in the ethnological side of the question will find it fully dealt with in Modestov's book, and those who desire to see the material fully illustrated will consult Montelius's vast and, as yet, unfinished work. The lake-dwellings are well treated by Munro, though, owing to the rapid progress of discovery, some of his work is even now out of date.

¹ In *Bullettino di Paletnologia Italiana*, vol. xxix.

But he who would have first-hand knowledge must dive into a mass of Italian publications, often very obscure and difficult to obtain. It is for those who need to know something of prehistoric Italy—and indeed the ever-increasing proofs of its connexion with the Aegæan and North Greece make it more and more indispensable for a Mediterranean archaeologist—and have neither time nor opportunity to search out and unravel such publications, that the present work is intended.

It may appear to some that an undue proportion of the work has been devoted to the civilizations of Sicily. It seemed, however, advisable to treat these very fully, not only because they are of such intrinsic interest and importance, being in many respects in advance of those of the Italian mainland throughout the prehistoric periods, but also because Sicily, in view of its close connexion with the Aegæan, is of almost more importance than Italy itself to the general Mediterranean archaeologist.

Did I attempt to testify my gratitude to all whose help has made the work possible my task would be a long one. My first thanks are due to the foremost of Italian prehistoric archaeologists, Professor Pigorini, for his continual interest and assistance, for permission to photograph in the Museo Preistorico, and to reproduce illustrations from the *Bullettino di Paletnologia Italiana*. Scarcely less is the debt I owe to his assistants at the Museo Preistorico, Professors Colini and Paribeni; to the late Professor Brizio, and to his successor at Bologna, Professor Ghirardini, to Signor Alfonsi at Este, to Professor Campanini at Reggio-Emilia, to Dr. Gabrieli at Naples, and, last but not least, to Dr. Paolo Orsi, who continues to do me the greatest kindnesses. And even now the list is far from complete. To the Reale Accademia dei Lincei I am indebted for permission to reproduce illustrations from the *Monumenti Antichi*; and to that warmest of friends, Dr. Domenico Ridola, for his kind hospitality at Matera, archaeologically the most interesting town in Italy.

Among Englishmen I have to thank Dr. Duncan Mackenzie for reading the portions of the work dealing with the megalithic monuments and with Sardinia in particular; Mr. A. J. B. Wace for reading those portions which relate to Thessaly and North Greece; Mr. Henry Balfour for numerous suggestions and improvements, especially in the earlier chapters. Professor J. L. Myres has been my kind adviser throughout, and much of the form of the work is entirely due to him.

For Figures 61 and 62 I am indebted to Dr. M. Mayer, for Figure 159 to Dr. Robert Munro, and for Figure 46 to the Committee of the British School at Athens, through G. A. Macmillan, Esq.

Dr. Orsi kindly supplied me with the original of Plate I, fig. 6, and Signor Alfonsi with those of Plate III, figs. 13-19 and fig. 21.

I cannot refrain from mentioning the extraordinary kindnesses I received during my tour through the museums of Central and North Europe, in particular from Professor Montelius, Dr. Sophus Müller, Dr. Hubert Schmidt, Dr. Hoernes, Dr. Vassits, and Herr Vejsil Čurčić.

Finally I have to thank the Craven Committee in the University of Oxford for the grant which enabled me to begin work in 1906, and for their kind interest in my work throughout.

My debt to Dr. David Randall-MacIver is one which I cannot attempt to pay in words.

T. ERIC PEET.

TANGIERS,

Jan. 19, 1909.

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MAPS:

1. Italy during the Neolithic and Eneolithic Periods.
2. The Po Valley in the Bronze Age.
3. Italy in the Bronze Age,
4. Sicily: Sites of the Neolithic Period.

INTRODUCTION

THE object of the work was twofold : firstly, to describe the prehistoric civilizations of Italy, and secondly, to determine their relations to those which flourished contemporaneously in the Aegæan and the Mediterranean generally, and in Central Europe. In order to achieve the second part of this object it was necessary to attack Italy firstly from the Mediterranean side, and secondly from Central Europe. I therefore began by spending some months in Greece, Crete and the Aegæan, and afterwards moved on to Sicily and South and Central Italy, watching closely for similarities and analogies with the Aegæan. When this had been done I adopted the same method with regard to Central Europe. This task proved much longer than I had expected, and, as a result, it became necessary to abandon the idea of including the early iron age in the work. To this I hope to return later. For the present its inclusion would but have impaired the completeness of the rest of the work.

Object of
the work
twofold.

Turning to what may be called the internal part of the book, i. e. that which deals directly with the material actually found in Italy itself, the method of working has been to keep theory and fact strictly apart. In dealing with any particular excavation, I have begun by describing the material found and the manner of its finding, making use in all cases of the original reports of the excavators ; only afterwards have I endeavoured to discuss the place of this material in the series and the problems to which it gives rise. The consequence of this arrangement is that the reader has before him in every case the material actually found, and is at liberty to test by his own criteria the conclusions here drawn from that material.

Method
of dealing
with
evidence.

Of the criteria on which my judgements have been based, it may be advisable to give the main outlines. Material

Value of
various

kinds of evidence. excavated may be at once divided into two classes, that found in regular explorations conducted by competent archaeologists, and that found in ill-regulated explorations and by incompetent diggers. The second type of material, of which there is a comparatively large amount in Italy, is of very limited value to the archaeologist. It seldom proves anything more than that such material was at some particular date in use in a certain spot. This indeed is occasionally a fact of great value, but in most cases the lack of the necessary details as to stratification &c., makes such material a source of confusion and error rather than of fresh knowledge. Thus it will be found in the following pages that material gathered from irregular excavation has seldom been accepted as affording definite evidence of anything but its own presence in a particular spot. For example, the grave of Parco dei Monaci affords no evidence of cremation in South Italy, and the 'lake-dwelling' of Offida does not prove that the *terremare*-folk ever inhabited Picenum. Had the peasant who turned up the Parco dei Monaci grave spoken of 'burnt bones in a vase' cremation would have been probable; had he produced them it would have been certain. But he did neither, and the fact that he saw no unburnt skeleton is of no value as evidence either for or against cremation.

Irregular excavation. Even the material found in properly-conducted excavations varies in value as evidence according to the nature of the site on which it was found. The types of site which usually present themselves in Italy are five in number, viz. caves, hut-foundations, lake-beds, *terremare*, and graves.

Caves. In some respects caves are the most reliable sites. They often continued in use over long periods, and present a definite stratification, sometimes made more definite by periods of desertion, during which the deposit already accumulated by man became covered by stalagmitic formations or by continual falls of rock from the cave roof. Thus we can often definitely affirm that one mass of material found in a cave is decidedly earlier than another taken from a higher level in the same cave. But unfortunately such certainty is not always possible. In too many caves mixing

has taken place : the cave has been partially cleaned out at different periods in antiquity, the deposit has been disturbed by animals or carried away by man to fertilize the fields. Or again, burials may have been made in the deposit, presenting us with such intricate problems as those of the Balzi Rossi caverns (pp. 37-45).

Hut-foundations often serve as reliable evidence. Even in the case of sites which continued long in habitation the remains of successive hearths afford a certain amount of definite stratigraphical evidence. Careful digging and the use of exposed sections may extract quite reliable results from such a site. An excellent example of this was to be seen in July, 1906, at Brizio's excavation outside Porta Saragozza, Bologna. Hut-foundations.

Objects dredged up from lake-beds, even when lying among the piles of a lake-dwelling, must be accepted with great caution. Even if they all belong to the lake-dwelling they may cover a long period. And nothing is more probable than that a few objects of far later date should be dredged up with the rest. Lake-beds.

Terremare offer more satisfactory evidence. They were often destroyed and rebuilt twice within the same moat and rampart. But even here, though the deposits were formed on more or less dry soil, there seems to be some difficulty in keeping the strata distinct. Certain it is that no single *terramara* has enabled us to assign the types of bronzes or pottery found to various periods in the life of the settlement. Terre-mare

Graves may for our present purpose be divided into two classes, those which after a single burial were closed once and for all, and those which could be reopened for successive burials. The former, simple graves cut in the soil, are of very high value as evidence, for we may be sure that all objects found in them were in use at a single moment of time. For the arrangement of types according to their period they are perhaps the most reliable guide we have. Graves which might be reopened, such as rock-tombs, are of comparatively small value, as they may contain burials and objects of very different periods. Graves.

Two other types of find remain to be considered, hoards of bronzes and flints found alone.

Hoard.

In the case of hoards of bronzes it must never be assumed that the various types found were in use contemporaneously. All the evidence goes to prove that bronzes, perfect and imperfect, were stored together over long periods of time, either as religious offerings or in order to be melted down and re-cast. To suppose that two types found in the same hoard are of necessity contemporary is an assumption which finds its *reductio ad absurdum* in the assigning to a single period of all the dozens of types which occur in the San Francesco hoard.

Flint.

Flints picked up on the surface of the ground afford no particle of evidence as to date. Though their form be *Chelléen* they may, for all evidence to the contrary, belong to the bronze or the iron age. No flint can be assigned to the palaeolithic period unless found in an undisturbed stratum geologically assignable to that period.

These criteria may sound discouraging, but it is quite certain that such logical bases are indispensable if sound conclusions are to be drawn. Besides, excavation in Italy has yielded such a store of reliable evidence that we have no need to depend on that which is less reliable. By using only the evidence which is certain we can rely upon getting correct results; by using that which is doubtful we may in a few cases get a true conclusion, but we shall more often arrive at nothing but error.

The typological method.

Finally it must be noted that in our attempt to assign material to its place in the chronological series we are not entirely dependent on the evidence of actual excavation, for the typological method has now been admitted to its proper place in archaeology. It is not necessary to describe the method here, for those who are not acquainted with it may find it admirably treated in Oscar Montelius's *Die typologische Methode*, where several of his most fruitful illustrations are taken from prehistoric Italy. Thus it is evident *a priori* that the socketed bronze celt is derived from the winged, and this from the flanged, and this again from the flat type.

Even here caution is necessary, and one must always be ready to admit that any type and its first or even later derivatives were in use side by side.¹

If properly used, however, the typological method is of great value in correcting and filling up the blanks in the evidence given by excavation, and it is upon the joint employment of this and the excavation reports that I have relied in the following pages.

¹ See Pitt-Rivers, *Evolution of Culture*.

THE following is a list of the publications most frequently referred to in the text, together with the contractions by which they are for convenience represented :—

- Bullettino di Paletnologia Italiana.* (B. P.)
Notizie degli Scavi di Antichità. (Not. Scav.)
Memorie della Reale Accademia dei Lincei. (Mem. Acc. Linc.)
Rendiconti della Reale Accademia dei Lincei. (Rend. Acc. Linc.)
Monumenti Antichi, pubblicati per cura della Reale Accademia dei Lincei.
(Mon. Ant.)
Brisio, *Epoca Preistorica.* Published as an introduction to *Storia Politica d'Italia.* (Ep. Preist.)
Modestov, *Introduction à l'histoire romaine.* French translation, 1907.
(Modestov, Introd.)
Montelius, *La Civilisation primitive en Italie depuis l'introduction des métaux.*
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CHAPTER I

THE PALAEOLITHIC PERIOD

FOR the existence of man in Italy in the tertiary period The evidence has from time to time been adduced, but it has never withstood the test of criticism and examination.¹ A deposit of the pliocene period from Colle del Vento yielded bones at first thought to be human, but later admitted to be anthropoidal. To the pliocene also was attributed a human skeleton from Castenedolo. This gave rise to a long discussion, and, after a careful examination of the place and circumstances of the find, it seemed almost certain that the skeleton was of quite modern date, introduced into the pliocene deposit in which it was found. Finally, at Montepertoso, near Siena, were found bones of a creature of the whale type, marked with regular incisions. However, it was pointed out that these were lying in a deep-sea deposit which contained no signs of human industry, but numerous teeth of a carnivorous fish, to which the incisions are undoubtedly due.

There is abundant proof that Italy was inhabited by man at an early date in the quaternary period. Up to the present very little scientific exploration of these early deposits has been undertaken, and the evidence for the period is scattered and often unreliable. It has, however, been sifted by Colini in his usual masterly fashion in an article on the Valle della Vibrata at present in progress,² on which the present treatment of the question is in part based.

As a basis for division and arrangement it is convenient to take Mortillet's French palaeolithic series consisting of five types, *Chelléen*, *Acheuléen*, *Moustérien*, *Solutréen* and *Magdalénien*, making no assumptions whatsoever as to the much disputed question of the chronology. Of these types

¹ *B. P.*, vii, p. 96; xiii, p. 68; xv, p. 89.

² *B. P.*, xxxii, pp. 117 and 181.

the two which are most frequent in Italy are the *Chelléen* and the *Moustérien*. Implements of modified *Chelléen* form, which answer to the French *Acheuléen*, do occur, but scarcely form a definite and distinct series. The *Solutréen* as a palaeolithic period is unrepresented, though well-worked implements of *Solutréen* type are found in certain neolithic deposits. Of the *Magdalénien* period there is not a trace in Italy. The absence of remains of the *Solutréen* and *Magdalénien* periods is explained by Pigorini as follows:—¹

While these two cultures, or at any rate the latter, prevailed in Central Europe, Italy was already falling under the influence of a new people who came by sea, and brought an advanced and developed civilization with them. In accordance with this view is his theory that the *Kjökkenmøddings* of Jutland and Denmark were formed by families descended from the old *Chelléen* race migrating northwards from Western Europe. At the same time tribes of *Hyperborei*, moving southwards across Belgium and France in pursuit of the reindeer, left their traces in the remains known as *Magdalénien*. Contemporary with both these events, the formation of the *Kjökkenmøddings* of Denmark and the descent of the *Hyperborei*, was the appearance of new families in Italy bringing with them the neolithic culture, the most conspicuous innovations of which were the polishing of stone and the use of pottery. The invaders, then, of Central Europe to whom the *Magdalénien* civilization was due did not penetrate the barrier opposed by the Alps.

Thus the two types with which we have to deal are the *Chelléen* and the *Moustérien*. We shall examine very briefly their chief characteristics and their distribution, asking at the same time whether any attempt at approximate chronology can be made. It must be noted that in speaking of *Chelléen* or *Moustérien* types we do not mean to imply that the implements in question are palaeolithic in date, except where this is definitely proved, but only in form.

The *Chelléen* implements of Italy may be divided into two types according as the greatest thickness lies at the

¹ *B. P.*, xxix, pp. 193-5, especially the footnotes.

base or near the centre.¹ The former type is generally made Type 1. from a rolled pebble of flint or quartzite, the length varying from 6 to 19 cm. This type is the more common of the two, and is more roughly worked than the other. The base, which is adapted to the hand, often shows the surface of the pebble from which the implement was made. Two sub-types may be distinguished. The first is roughly oval in form, and the point is broad and rounded (fig. 1). The



FIGS. 1, 2. *Chelléen* implements. Scale $\frac{1}{2}$. (Colini, *Bull. Pal.*)

second is triangular, with straight edges and a well-marked point (fig. 3).

The second main type of *Chelléen* implement is more carefully worked. Usually it is elliptical in shape, with regularly curved sides and a rather dull point (fig. 4). Occasionally, however, the form is an elongated ovoid with a point sharpened by minute flaking (fig. 2).

In both types it must be noticed that the two sides, which are both worked, seldom have the same convexity (cf. fig. 5), while in some cases we find the well-known twisted edge shown in fig. 4 (right side).

¹ *B. P.*, xxxii, pp. 125 sqq.

Other
types.

These are not the only forms found, though they are the most stable and perhaps the earliest types. In the implements from several of the great Italian centres of flint-working we see not only examples of much finer workmanship, recalling that of the *Acheuléen* period in France, but also signs of the adaptation of the implements to special uses, by means of minute flaking at particular points.



FIG. 3. *Chelléen* implement. Scale $\frac{1}{2}$. (Colini, *Bull. Pal.*)

Distribu-
tion
a. Vibrata
Valley.

The distribution of the *Chelléen* implement in Italy is not difficult to ascertain. The Valley of the Vibrata has yielded numerous examples, but unfortunately it is impossible to ascertain their original stratification, as they are found in recent alluvial deposits produced by the denudation of the surrounding hills. Along with these implements were found points and flakes of *Moustérien* type. The probability, based on evidence from other sites, is that all the true *Chelléen*

forms found in the valley are of palaeolithic date. This is, however, not a certainty. *Moustérien* types, on the other hand, often survived into neolithic times, and this may have been the case with some of the *Vibrata* examples. Such implements do appear to have been found in the neolithic deposits of the valley.

Chelléen forms are recorded from other parts of the Abruzzi and also from the Marche. In the latter district isolated

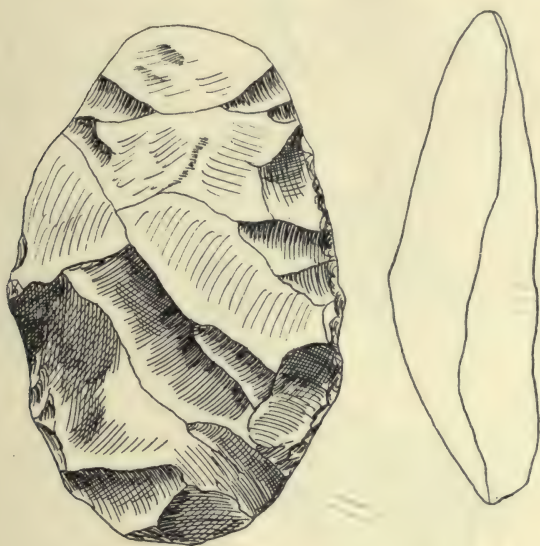


FIG. 4. *Chelléen* implement. Scale $\frac{2}{3}$. (Colini, *Bull. Pal.*)

examples have been found, but for the Abruzzi the evidence is more satisfactory. The chief centre of the stone-working industry seems to have been near La Maiella, in the neighbourhood of Chieti. The implements of La Maiella, made from rolled pebbles of flint or rarely quartzite, mostly conform to the main types, but some, of forms more advanced and delicate, are precisely parallel to those which in France are termed *Acheuléen*. Compared with the implements of the *Vibrata* Valley those of La Maiella exhibit greater finish and more regularity of shape. Unfortunately none of these implements were found in deposits which justify any

b. La
Maiella.

conclusions as to their age, and any date which we may assign to them must be a mere matter of analogy.

We may conclude that in the Marche and Abruzzi the *Chelléen* industry not only extended over a wide area, but underwent considerable development. On the bank of the

c. Imola.

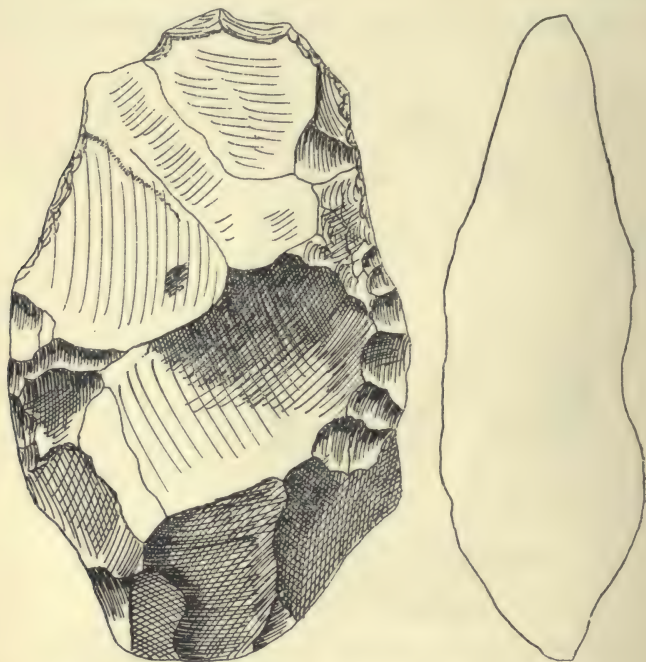


FIG. 5. *Chelléen* implement. Scale $\frac{3}{4}$. (Colini, *Bull. Pal.*

found associated in such a way as to establish their contemporaneity. They were found in the quaternary deposits of the second terrace of the river.

d. Umbria.

Various parts of Umbria have yielded *Chelléen* forms whose position was not ascertained. In some cases, however, we are able to say exactly from what stratum they come. At Busco, S. Egidio and Petrignano, they were found in sand or sandy gravels left by the quaternary alluvium of the Tiber and the Chiascio. In other places they occurred on the surface, where the surface happened to consist of quater-

nary alluvium, on the terraces of the Tiber and several of its tributaries. In the lowest and therefore latest alluvial deposits the *Chelléen* forms were always associated with the *Moustérien*.

In the island of Capri *Chelléen* forms were found alone, e. Capri. certain flakes found with them being far too shapeless to be called *Moustérien*. The fauna with which the implements were associated included *Elephas antiquus*, *Rhinoceros tichorhinus* (?), *Ursus spelaeus*, *Felis tigris* (?), and the hippopotamus. Thus *Chelléen* man must have lived in Capri in the old quaternary period. Similar evidence comes from Terranova, near Venosa, in the North of the Basilicata. *Chelléen* implements were found together with remains of *Cervus elaphus*, *Hyaena spelaea*, *Ursus spelaeus*, *Felis spelaea*, *Hippopotamus amphibius major* and *Elephas antiquus*.

In North Italy *Chelléen* forms seem to be rare. A few f. Liguria. isolated examples are quoted, e. g. from the Grotta delle Fate in Liguria, and from the Euganean hills, while it is certain that at Breonio and at Rivoli the *Chelléen* industry g. Breonio and Rivoli. in a modified form existed during the neolithic age.

From the islands only one *Chelléen* form is yet recorded. h. Sicily. It was found in Sicily, in the district of Trapani.

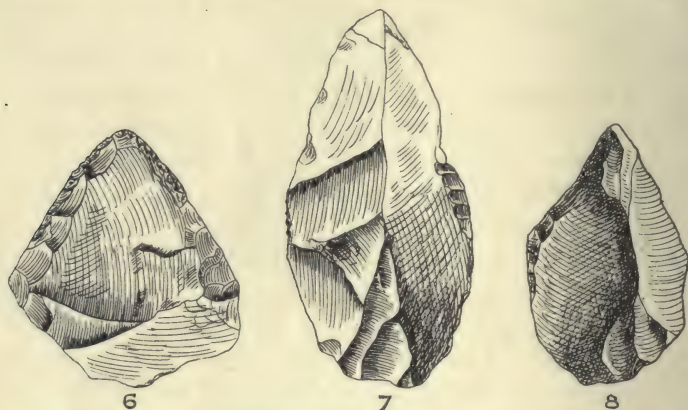
Besides the examples from Venosa and Capri, South Italy has yielded many others. The bulk of these come from the i. Gargano. peninsula of the Gargano, in which district palaeolithic forms were made until very late.

The conclusions to be drawn from our material are not General numerous. As in France, so in Italy, the *Chelléen* imple- conclusions. ments are found sometimes alone, sometimes with the *Moustérien*, and, in some cases at least, belong to a quaternary period which had a warm climate and whose fauna included the elephant. We have as yet no evidence from Italy itself for the hypothesis that the *Chelléen* period was definitely earlier than the *Moustérien*. Again, though implements of *Acheuléen* type occur, they are never accompanied by the objects which distinguish deposits of this type in France. The *Chelléen* industry had a long life in Italy, and Pigorini contends with much plausibility that the arrival of neolithic people and industries did not altogether destroy it.

In particular, he describes as direct descendants of the *Chelléen* implements two forms, the *Solutrén* spearhead and the flaked axe found in neolithic deposits at Rivoli, and in the Valley of the Vibrata and elsewhere.

Did
Chelléen
man come
from
Africa?

Pigorini suggests further that the *Chelléen* man, whom he takes to be the earliest inhabitant of Italy, came from Africa.¹ He supports this idea by pointing to the distribution of the *Chelléen* implement in Africa, where it is found in Algeria and Tunis, in the Nile valley, in Somaliland, in the French



FIGS. 6-8. *Moustérien* borers. Scale $\frac{1}{2}$. (Colini, *Bull. Pal.*)

and Belgian Congo, in Cape Colony, Natal and the Transvaal, and also in the neighbourhood of the Victoria Falls.

B. *Moustérien*
implements.

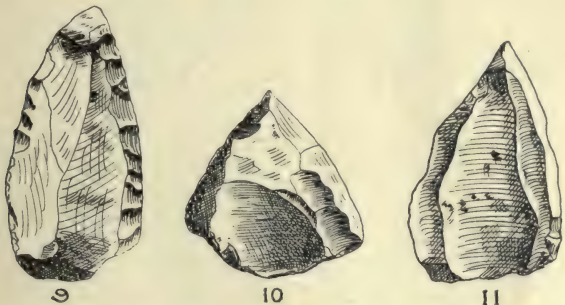
The distinguishing characteristic of the *Moustérien* implements of Italy is that they are made not from rolled stones but from artificially struck flakes of flint.² The working, which is sometimes quite fine, is usually limited to one face of the implement, while the other is untouched and shows the bulb of percussion. In Italy the *Moustérien* implements are of four forms, points (*punte*), scrapers, discs and large retouched flakes. The points are formed of flakes which taper towards one end, while the other end, formed by the plane of percussion, is left blunt to be held in the hand (figs. 6-11). The lower face is of course plane or nearly so,

1. 'Points.'

¹ *B. P.*, xxix, p. 192

² *B. P.*, xxxii, pp. 181 sqq.

and the upper surface is worked in longitudinal flakes. Sometimes the point and edges are finely retouched. The shape varies from oval to triangular, but admits of endless varieties, and is often very irregular. The point is often unsymmetrically placed, as in fig. 12. Plate I, fig. 1, gives some examples of neolithic date. The scrapers also are made by working on one face only. One of the longer edges is worked to a fine cutting or scraping edge by minute flaking, while the opposite edge is usually left unworked. The cutting-edge is almost always convex. The forms are trapezoid, ovoid or segmental, the arc in the latter case forming the sharpened



FIGS. 9-11. *Mousterien* borers. Scale $\frac{2}{3}$. (Colini, *Bull. Pal.*)

edge (figs. 13-17). The so-called flakes do not conform to any definite shape. They are usually rather broad, and are retouched at the point and on one or both edges (fig. 18). The discs are, unlike the other implements described, worked on both faces. Their general appearance may be gathered from fig. 19.

Rosa states that implements of these four types were found in the Valley of the Vibrata, sometimes in company with *Chelléen* types, sometimes alone, and sometimes in neolithic deposits. In the absence of evidence to the contrary, we must admit that at least a certain proportion of these implements are most probably of neolithic date.

Mousterien shapes are well represented in various parts of the Marche, though we have no evidence to show in what stratum they lay. In the Abruzzi the district of Chieti has yielded numerous examples of this industry. It is stated

2. Scrapers.

3. Flakes.

4. Discs.

Distribution.

a. Vibrata Valley.

b. The Marche.

c. Chieti.

that *Chelléen* and *Moustérien* implements were here found together in alluvial gravels fifty metres above the present level of the river Alento. There seems, however, to be some reason for doubting this statement. The wide diffusion of the *Moustérien* types in the Marche and Abruzzi shows that the industry had a firm hold on this part of Italy, so that

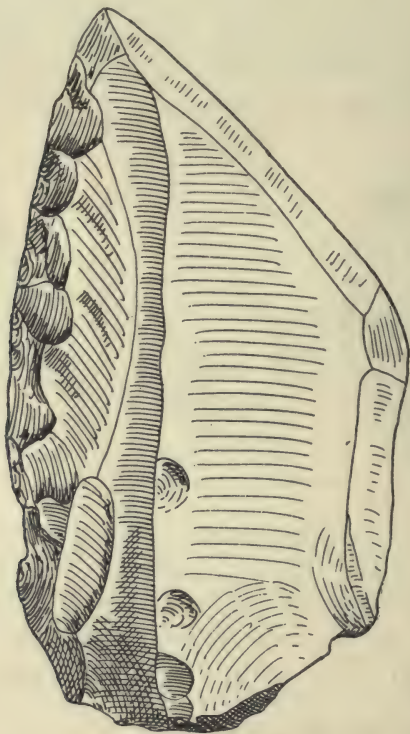


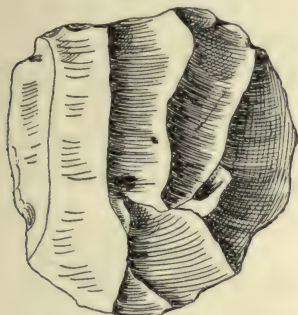
FIG. 12. *Moustérien* borer. Scale $\frac{1}{2}$. (Colini, *Bull. Pal.*)

the existence of *Moustérien* forms here in neolithic times occasions no difficulty.

Date of
the *Mous-
térien*
imple-
ments.
Datable
deposits.

The examples we have so far mentioned give no clue whatsoever as to their date. There are, however, in Italy deposits from which more definite conclusions can be reached. In the Valley of the Vibrata, on the quaternary terraces of the river Santerno near Imola and in the pleistocene alluvia

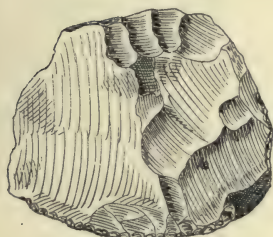
of the Tiber, we saw that *Moustérien* implements were found together with *Chelléen*. We have now to examine deposits in which *Moustérien* types were found alone. The most important of these lie between Parma and Enza at Traver-^{1. Traver-}setolo.



13



14



16



15



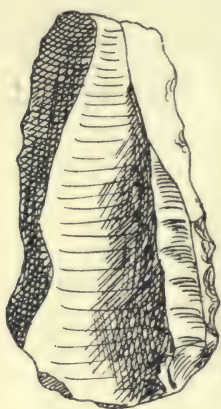
17

FIGS. 13-17. *Moustérien* scrapers. (Colini, *Bull. Pal.*) FIG. 13, scale $\frac{1}{4}$.
FIG. 14, scale $\frac{2}{3}$. FIG. 15, scale $\frac{2}{3}$. FIG. 16, scale $\frac{1}{4}$. FIG. 17, scale $\frac{2}{3}$.

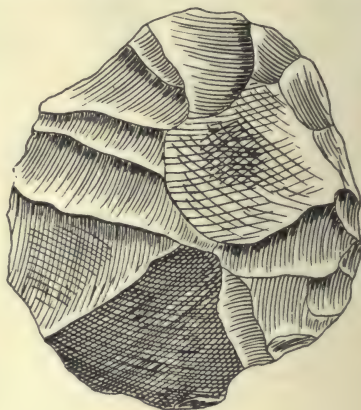
setolo and Lesignano dei Bagni ; others occur in the Balzi Rossi caves in Liguria. In the former case the implements were found in a stratum abounding in pisolites, lying between the quaternary deposit and the modern alluvia. They are finely preserved and show no signs of rolling. The materials

2. Balzi
Rossi.

used are jasper, flint, quartzite and resinite, and the implements, to judge from the excellence of the work, belong to an advanced period of the *Moustérien* industry. In some of the Balzi Rossi caves, notably the fourth and sixth, were found *Moustérien* points and scrapers of flint, limestone and sandstone, in the lowest strata. The fauna of these strata included *Ursus spelaeus*, *Hyaena spelaea* and a *Rhinoceros*. In the lowest levels of the fifth cave *Moustérien* implements were associated in an early quaternary deposit with bones of a rhinoceros and an elephant. In other caves in Liguria *Moustérien* forms were found together with objects of pre-



18



19

FIG. 18. *Moustérien* flake. Scale $\frac{2}{3}$. (Colini, *Bull. Pal.*)

FIG. 19. *Moustérien* disc. Scale $\frac{2}{3}$. (Colini, *Bull. Pal.*)

sumably later date, such as worked bones. Some of these no doubt belong to the early neolithic period.

3. Rome.

The district around Rome has yielded important remains of the *Moustérien* type from the quaternary gravels of the Tiber and its tributary the Aniene. The gravels in question are said to be of the post-pliocene period. If this is so the high antiquity of the implements is beyond dispute. Numerous isolated objects of this type have been found in various localities near Rome, but their exact position when found is not known, and their palaeolithic date cannot be with certainty affirmed.

South Italy has yielded considerable remains of *Moustérien*

type, but they are usually found on the surface. Patroni records the finding of *Moustérien* flints in the cave of the 4. Cosenza Torre della Scalea, near Cosenza. The cave was completely filled with a breccia, which, in addition to the flints, contained bones of elephant, hippopotamus and cave hyena.

The inhabited caves of Sicily often contain rough imple- *Mous-*
ments of *Moustérien* type, but the evidence for their age is *térien* in
uncertain, and they are probably in many cases of neolithic Sicily.
date. We know from the flints of San Cono that in Sicily the palaeolithic forms persisted into the later stone age. However, in the cave of Carburanceli near Palermo three distinct deposits were found. The uppermost was of Roman date; the next contained flints and bones of existing animals. The lowest, 0.80 metre thick, contained ashes, shells, *Moustérien* flints, together with bones of *Elephas antiquus* and *Hyaena crocuta*. Beneath this deposit was a layer of sand resting upon the floor of the cave. *Moustérien* objects also occur in other Sicilian caves, such as that of S. Teodoro, near Messina, but in no cave is their contemporaneity with the elephant certain, except in that of Carburanceli.

Finally, it must be noted that on the Gargano *Moustérien* On the
forms have been found along with *Chelléen* on the surface, Gargano.
while isolated examples prove the presence of this industry in Tuscany and in the Euganean hills.

The conclusions to be drawn from this survey are mainly *General*
negative. In the light of present evidence we have no proof *conclu-*
that the *Moustérien* industry was later than the *Chelléen*. *sions.*
It is certain that in some parts of Italy both flourished side by side. Both were in some districts in existence in the old quaternary period, before the disappearance of the elephant and the rhinoceros, and both persisted in a more or less modified form into neolithic times.

Besides these two palaeolithic types of remains found in *Other*
Italy, the *Chelléen* and the *Moustérien*, there are still two *palaeo-*
more to be considered. These are, firstly, the implements *lithic*
of the type found in the deposits of the Balzi Rossi caves *types.*
in Liguria. The caves themselves are to be described under *a. Balzi*
Rossi
type.

the neolithic period, because it seems certain that they were used as a place of burial by the neolithic people of Liguria. The great bulk, however, of the deposit found in the caves belongs probably to an advanced period of the palaeolithic age, and the flint implements found are therefore described here.

Secondly, we have to consider a series of implements which almost certainly represent a continuation of the *Chelléen* and *Moustérien* industries during the true neolithic period. Such implements are found at Rivoli and Breonio, in the province of Verona, in the Vibrata Valley, and on the Gargano promontory. The question of these survivals is treated in Chapter VII.

The flint implements of the Balzi Rossi caves constitute a special class. In some respects they recall those of the *Moustérien* type, though the work is often much finer. They cannot be exactly paralleled from the French palaeolithic series. The absence of the fine laurel-leaf lanceheads prevents our classing them as *Solutréen*, and the fine bone-work of the *Madeleine* period is entirely lacking here. Indeed both these French periods are unrepresented in Italy.

On the other hand, it has been shown that these deposits of the Balzi Rossi caves are not neolithic, though some of the flint types are to be found in neolithic times. We must therefore construct a third group of palaeolithic implements, a group apparently later in date than the earliest *Chelléen* and *Moustérien* in Italy. Unfortunately the material from the latest excavations in these caves is as yet unpublished, and we are thus unable to describe it in detail. It is sharply separated from the older palaeolithic material by the fact that it contains implements based on the use of regular rectangular flakes of flint taken from a prepared core. They are triangular or trapezoidal in section, and are generally left just as they come from the core, or merely slightly flaked on the long edges. In this simple form they serve as knives. At other times, however, one of the ends is rounded off by minute flaking on one side only to serve as a scraper. In some cases both ends are worked in this

b. Survivals of *Chelléen* and *Moustérien*.

A. Balzi Rossi.

Not neolithic in date.

Use of prepared cores.

Forms.

a. Knife.

b. Scraper.

way, and we thus get a double scraper ; or again, one end of the flake is adapted for scraping, while the other is brought to a sharp point.¹ All the implements so far described are types which continue in use during the neolithic period. The peculiarity of the deposit under discussion is, however, the combination of such neolithic types with others which are of quite different nature. They include a series of very small delicate borers, worked in small flakes on one face only, and several larger lanceheads worked minutely along part of the edges on the upper face. It must be noticed that none of these types is peculiar to this deposit, and it is only their combination with one another and with certain objects of bone and shell, together with the absence of pottery, that necessitates their being attributed to a special period of the late palaeolithic age.

c. Borer.

d. Fine borers.

e. Lanceheads.

¹ See Mortillet, *Musée Préhistorique*, Pl. XVIII, figs. 138 and 141-3.

CHAPTER II

NEOLITHIC CAVE-DWELLINGS

The Cave-dwellers.

It has already been seen that palaeolithic man in Italy made his home almost invariably in natural caverns. The neolithic age in Italy is undoubtedly marked by the appearance of a new race, who bring with them the art of polishing stone, the industry of pottery-making and the custom of dwelling in huts. Hut-dwellings, however, entailed some labour and afforded little protection from severe weather. It was, therefore, only to be expected that when these people found a suitable cave ready to hand they used it in preference to building huts. Thus the first neolithic people who came to Italy took up their position partly in the caves, especially those of Liguria, partly in the open, particularly in Emilia, where they built huts.

Caves of various periods.

The practice of living in caves, however, was not limited to the palaeolithic and neolithic periods. There are caves in Italy which were inhabited during the transition from the stone to the bronze period, e. g. the cave on Monte Bradoni, near Volterra, while others, such as those of Farné, near Bologna, and Frasassi, near Ancona, were still in use in the full bronze age.

For the present we limit ourselves to dealing with the most important caves which contain remains definitely attributable to the true neolithic age.

Caves inhabited and deserted alternately.

We must, however, notice two points. In the first place, some caves were inhabited in various periods, sometimes continuously, sometimes with longer or shorter periods of desertion. This may be either an advantage or a disadvantage to the archaeologist. If the periods of desertion have been long, the remains of man in various times of occupation may be definitely separated by strata of stalagmite or other

natural formation. In this case even careless digging can separate the different periods. But if the periods of desertion have been short there is no such guide, and any but the most accurate excavation must end in mere confusion. Examples of this will be seen later.

In the second place, caves were often used for burial. Some served alternately or successively for burial and for habitation, some for one or the other use alone. But in cases where a cave has been used for both purposes it is often of the most extreme difficulty to determine the chronological relation of a grave to the stratum of remains of habitation in which it actually lies, for we cannot decide at what depth from the then surface the body was laid. Cave-burial.

Inhabited caverns abound in almost every part of Italy and the islands. For archaeological purposes it is difficult to group them, for though all possess certain characteristics in common they show such considerable local differences that systematization is impossible. We cannot even divide them according to the use which they served, for the great majority were used both for living and for burial. We are therefore compelled to classify geographically. Geographical distribution.

In the northern half of Italy two important groups of caves at once demand our attention, those of Liguria and those of the Apuan Alps in Tuscany. A. Northern Italy.

The caverns of Liguria may immediately be divided into two groups, those whose contents are mainly palaeolithic, and those whose contents are mainly neolithic, and which contain little or no palaeolithic material. The first group consists of the Balzi Rossi caves, the second of numerous caves of which the most important are Arene Candide, Pollera and Del Sanguinetto. The caves of Liguria.

The caves of the Balzi Rossi contain a deposit which is clearly the result of inhabitation. In this deposit, however, are found burials. Now the deposit, as we shall see, is late palaeolithic in character. If the graves are of the same date we have evidence for the existence of a careful burial rite in palaeolithic times, a fact of vast importance. If, however, the burials are later they fall into line with other cave-burials a. The Balzi Rossi caves.

of the neolithic period. We must therefore examine the evidence afforded by the caves themselves.

The Balzi Rossi caves are situated on the sea coast between Mentone and Ventimiglia, just on the Italian side of the frontier.¹ They lie in a mass of jurassic limestone, and are almost all at the same level, about 27 metres above the sea, from which they are separated by a sloping beach. The caves examined are ten in number. As early as 1786 they had been discussed from the geological point of view, but the first archaeological researches on a large scale were those carried out by Rivière during the years 1870-5. The result of these excavations was to prove that the first six caves had been used as habitations by early man. The first, fourth, fifth and sixth were also used for burial. The ninth contained only animal remains.

Rivière maintained that the whole of the material found belonged to the palaeolithic period, the two hundred thousand stone implements representing between them the *Moustérien*, *Solutréen* and *Magdalénien* industries, while the rare objects of bone belonged to the last alone.

The human skeletons found by Rivière were six in number. The first came to light in 1872, in the fourth cave. It lay at a depth of 6.55 metres, in a deposit which, according to Rivière, had never been disturbed. The body was in an easy position on the left side, its feet towards the North of the cave. The head was slightly raised on a pillow of rough stones, the left hand was up to the head, and the legs were slightly bent and crossed. Round the head lay many shells of species *Nassa neritea* and twenty-two canine teeth of stags, pierced for stringing. More shells lay by the calf of the leg. At the forehead was found a bone piercer or dagger, and behind the skull two long flint knives. Both the skeleton and the objects which accompanied it were coloured by a layer of iron peroxide, which was thickest on the skull. The animal remains found near the body included *Felis spelaea*, *Ursus spelaeus* and *Rhinoceros (tichorhinus?)*. Rivière inferred that the burial was contemporary with these extinct animals.

¹ Issel, *Liguria Geologica e Preistorica*, pp. 247 sqq.

Rivière's
excava-
tions.

Rivière
dates all
the de-
posits as
palaeo-
lithic.

The
burials.
a. In Cave
IV.

The sixth cavern yielded three human skeletons. This cave, which was completely emptied by Rivière, originally contained a deposit 6.50 metres deep. Remains of successive hearths were clearly visible, and it was on one of these, at a depth of 3.75 metres, that the first skeleton was found. Its feet pointed towards the North of the cave, and the left knee was slightly bent. The body had been buried in a covering of animal hide. The funeral furniture consisted of a flint knife at the left shoulder and various bracelets (all in position) of shells and teeth. The second body, incomplete as was also the first, lay at a slightly higher level. It was placed on the left side of the remains of a hearth. The ornaments consisted of pierced teeth and shells, and the whole deposit was, as in the last case, coloured with iron peroxide. The third skeleton was, unlike the others, that of a child. There were neither ornaments, funeral furniture, nor red colouring.

In the years 1874 and 1875 two skeletons of young children were discovered in the first cavern. They lay close together at a depth of 2.70 metres. Above one of them was found the remains of a belt made of over a thousand shells of *Nassa neritea*. Both bodies were buried in the extended position, lying north-east and south-west. There was no red colouring and no funeral furniture, except possibly one flint scraper.

Rivière's conclusions were briefly as follows. The Balzi Rossi deposits examined by him were undisturbed, and belong from top to bottom to one period, the quaternary. The inhabitants were contemporary with *Hyaena spelaea*, *Ursus spelaeus*, *Felis spelaea*, *Rhinoceros tichorhinus* and a species of *Elephas*. The weapons of stone are all of palaeolithic date and belong in the main to the end of the *Moustérien* and the beginning of the *Solutréen* periods, in spite of the fact that the worked bones point to the *Magdalénien* age. In the lowest strata of the deposits flint weapons were almost entirely replaced by those of *grès* and limestone. The latter are not *markedly* older than those of flint, because they are accompanied by the same fauna; they were made by the cave-men at their first arrival, before they had found suitable deposits of flint. The burials are contemporary

b. In Cave VI.

c. In Cave I.

Rivière's conclusions.

1. Fauna.

2. Implements all palaeolithic.

3. Burials palaeolithic.

with the strata in which they were found. The dead were buried wrapped in skins, with their ornaments upon them, flint implements being sometimes added. They were buried in the cave where they had lived, and their families continued to live there. Sometimes the body was left in the position in which it lay at the time of death, at others it was laid on the cave-hearth with the head slightly raised. No attention was given to orientation, but a layer of iron peroxide was strewn over the remains. Children were buried without any of the rites observed in the case of adults. The skulls were all of the Cro-Magnon type.

Problems
raised by
these
excava-
tions.

These results did not pass unchallenged. They were followed by a long series of disputes and discussions which are not even now at an end. The history of the question is too long to be given here. It has been admirably treated by Colini.¹ The four main questions to which Rivière's results give rise are as follows. Firstly, were the deposits undisturbed at the time of the excavation? Secondly, are they all of quaternary date, and, if so, to what period can they be referred? Thirdly, are the tombs contemporary with the deposits in which they were found? Fourthly, are the skulls of Cro-Magnon type?

1. Were
the de-
posits un-
disturbed
at the
moment of
excava-
tion?

The first question need not detain us long. Eyewitnesses agree in stating that before Rivière's excavations the deposits had been tampered with in modern times, though the extent of the damage is uncertain. De Mortillet agrees that mixing had already taken place in the neolithic age. He points out that the fauna is mixed, and that species are found in the same stratum which could not possibly have been contemporary. Much of the confusion was, he thinks, caused by the digging of the graves in neolithic times.

2. To what
period do
they
belong?

With regard to the second question there is more difficulty. In 1872 De Mortillet decided that the deposits of the caves belonged to the period of the reindeer, although the remains of that animal had at that time not been found there. The industry represented, according to De Mortillet, was therefore the *Magdalénien*. De Nadaillac supported this in the main, but hinted that several periods might be

¹ In *B. P.*, xix.

represented by the deposits. Hamy pointed out that the worked bone implements of the *Magdalénien* period were rare in the Balzi Rossi caves, and, when they occurred, were not worked in the same way as those of La Madeleine. He suggested several points of resemblance between Balzi Rossi and Cro-Magnon. In 1876 De Mortillet modified his views. Observing that in the lower strata, where Rivière reports implements of *grès* and limestone, the *grattoirs*, lanceheads and borers are never found, he attributes these strata to the *Moustérien* period and the upper strata to the *Solutrén*. The bone objects from near the surface he now judged to be, like the graves, neolithic. Pigorini held a view strongly opposed to this. He showed that much of the material from the Balzi Rossi was identical with that from the neolithic caves of Arene Candide and argued contemporaneity. He denied in particular that the *Solutrén* industry was represented.

An almost fiercer battle raged with regard to the age of the burials. Pigorini, arguing from the rites of red coloration, and of burying the bones when already stripped of the flesh, rites which are observed in neolithic graves in Italy, declared that the burials were neolithic. It should be noted that the employment of the second of these rites is based only on Rivière's statement that the bones of one of the bodies in the sixth cave were found partly incomplete and out of anatomical connexion. Others held the burials to be palaeolithic. They pointed to the depth at which the bodies were found, and recalled Rivière's assurance that there were no signs of the graves having been sunk into an already accumulated deposit. Cartailhac even tried to prove that the rite of stripping the flesh off was usual in France in the *Magdalénien* period.

As to the fourth question there is little difficulty. The skulls found by Rivière are of the Cro-Magnon type. The heads are long and the face broad at the top and across the middle, while the orbits are rectangular and set low. Pigorini, noting that the neolithic skulls of Arene Candide are precisely similar, argues that the Balzi Rossi graves are also neolithic. Issel, who thinks the graves palaeolithic,

3. To what period do the burials belong?

4. Of what type are the skulls?

maintains that the palaeolithic type of skull lasted on into neolithic times in Liguria.

Later excavations in Cave V.

Such were the diversities of opinion arising out of the discoveries of Rivière. Since Rivière wrote, the fifth cave, called Barma Grande, has been explored thoroughly. The deposit contained remains of hearths, charcoal, burnt earth, cinders, split bones, flint implements, flakes and cores. In 1884 a skeleton was unearthed at a depth of 8.40 metres. It was extended on its back, and the head was covered with red ochre. The furniture consisted of two flint knives. In 1892 three more skeletons appeared. They were exactly orientated with the feet to the West. Two lay on the left side, the third on its back. The furniture consisted in each case of a fine flint knife, placed in two cases in the left hand. One of the bodies had also an ornament of bone or horn. The usual ornaments of shells and the usual red covering were observed. The skulls, so far as could be ascertained, were of the Cro-Magnon type.

These discoveries did nothing to solve the old problems but merely raised them afresh. If they did contribute any new evidence it was that noted by Evans when he says that no bones of extinct species were found associated with the burials.

Colini's conclusions.

As a summing up of the evidence from the point of view of Italian archaeology, that of Colini is well worth repeating. After giving very sound reasons for using great reserve in accepting Rivière's statements, he states the following conclusions :—

The deposits of the various caves differ in date. The various strata found comprise both a quaternary and a present-day fauna, but the bulk of the material is of the period known in France as that of the reindeer. Mixing of strata has taken place in some of the caves. In some cases it is of modern origin, in others it is ancient, and was caused by the sinking of graves in an already formed deposit. To the idea that the bodies were left on the cave-floor and that the deposit accumulated over them Colini gives no credence whatsoever, and he adds that the fauna found in proximity to a body has no chronological value for determining the

age of the burial. Some of the objects found in the upper strata are certainly neolithic, e. g. potsherds, a polished axe, a stone ring &c., and perhaps also some of the bone objects. The bulk of the deposit is palaeolithic. The lower strata contain objects of *Moustérien* type, the upper strata contain later objects, but there are no *Solutréen* flints or *Magdalénien* worked bones. The post-*Moustérien* flint implements have parallels in neolithic deposits in other parts of Italy, especially in the Valley of the Vibrata. The tombs are probably of the early neolithic period, and therefore later than the greater part of the deposit in which they are found.

After this the controversy broke out once more, the special point at issue being the age of the burials. In 1906 the International Congress of Prehistoric Archaeology was held at Monaco, and a visit was paid to Balzi Rossi caves with the object of clearing up some of the uncertainties. The results have been described by Issel,¹ and form at present the last words on the subject.

During several years previous to the meeting of the congress systematic excavations had been in progress, principally in Caves IX and I. In Cave IX four strata could be distinguished. The lowest consisted of a quaternary breccia of marine shells and pebbles. Above this lay a stratum containing a fauna suited to a warm climate, including *Elephas antiquus*, *Rhinoceros Merckii* and a *Hippopotamus*, all typical of the middle quaternary. Issel does not tell us whether any implements were found here. The third stratum consists of a red clay with pebbles and masses fallen from the roof, representing a period when the cave was unoccupied by man. The upper layers of this stratum contain charcoal, cinders and remains belonging to the fauna of the later quaternary. The animals are those of a colder climate, and include *Rhinoceros tichorhinus*, reindeer, wild goat (*stambecco*) and marmot. The fourth stratum consists of a stalagmitic formation covered by recent clays and falls of roof. Issel notes that the few specimens of reindeer found in the Balzi Rossi were probably killed at a distance and brought in. It is at least clear that the animal was

The
Monaco
Congress,
1906.

Excava-
tions pre-
ceding the
Congress.
Cave IX.

¹ *B. P.*, xxxii, pp. 87 ff.

rare at the time in Liguria. No burials were found in Cave IX.

Cave I.

The other cave, Cave I, yielded more important results still. The deposit was mainly formed by man and consisted of hearthstones, charcoal, cinders, flints &c. In the upper strata occurred bone awls, pierced shells, and flints of various forms, often small and finely worked. In the lower strata the implements were larger and rougher, seldom of flint, usually of sandstone or limestone. Most of them were scrapers and points of *Moustérien* type. At a depth of 7.75 metres were found two human skeletons in a stratum containing *Ursus spelaeus* and *Hyaena spelaea*. They lay in a trench sunk through a hearth-place. A rough stone supported on two others protected the skulls. A third skeleton lay 60 cm. higher, in a layer containing remains of the same animals as those among which the other grave lay, together with those of the marmot. It lay on a bed of charcoal and ashes. A block of stone protected the feet, and another at one time covered the skull. A fourth skeleton lay 6 metres above the others, in a stratum free from the remains of the great carnivorous animals and containing the wild goat and common stag. The two skeletons found at the greatest depth have certain similarities to the Cro-Magnon type but their peculiarities are such as to place them in a class alone. They have certain negroid characteristics.

Other
caves.

Recent excavations in the fifth cave confirmed the idea of a definite progression in the archaeological material. In the lower strata the implements were rougher in type and were usually of sandstone and quartzite rather than of flint. In the sixth cave two distinct sets of fauna were recognized, the earlier comprising a *Rhinoceros* and an *Elephas*, the later the stag, wild goat, boar, horse, fox and reindeer. The burials already referred to were found in the upper stratum.

Issel's
conclu-
sions.

Issel sums up as follows. In some at least of the caves the fauna comprises species suited to a warm interglacial climate and species suitable to a cold climate, that of the last glacial expansion. The objects from the upper layers belong to the age of the reindeer, but cannot be called either

Solutréen or *Magdalénien*. He adds: 'It is now clearly proved from the stratigraphical conditions, especially in the cave "dei Bambini" (Cave I), that the human skeletons are all contemporaneous with the strata in which they were buried, that therefore they are all truly quaternary, though between them there may be great disparity of age. . . . The hypothesis of a burial of neolithic folk in a palaeolithic deposit is therefore definitely excluded.' All the skeletons found are of Cro-Magnon type, except the two from the lowest level of the first cave.

The
burials
palaeo-
lithic.

Whether these results follow from the evidence we can scarcely tell, until Cartailhac has published the material in full. At present it is questionable whether an advocate of the neolithic burials will be convinced by Issel's very curtailed reasoning,¹ and unless the observations taken were very much fuller than any described in this report the question can hardly be regarded as settled.

Do these
conclu-
sions fol-
low from
the
evidence?

From the Balzi Rossi with their unsolved problems, it is a relief to turn to the other Ligurian caves with their definitely neolithic deposits.

b. Neo-
lithic
caves of
Liguria.

The cave of which we have the fullest information is that called Grotta della Pollera, explored by Morelli (Map I, 7).²

1. Grotta
della
Pollera.

It was proved beyond doubt that the cave was used both as a habitation and as a burial-place. There were in all nine strata containing remains of human industry, and intervals of natural deposit separating these point to periods when the cave was not in use. The very earliest remains in the cave, i. e. those contained in the stratum which lies directly above the solid rock, show a fauna which is not only quaternary but falls fairly late in that period. There is in this stratum no sign of *Elephas primigenius*, *Ursus spelaeus* or *Felis spelaea*. On the other hand, it does contain *Cervus elaphus*, *Cervus capreolus*, *Ursus arctos*, *Felis lynx* and

a. The
strata.

¹ Nevertheless, Colini has the following note: 'The most important result, however, of these excavations was to ascertain that in these caves the remains of the dead during the palaeolithic age and the full quaternary period were buried according to rites analogous to those observed for the neolithic age in the caves of Arene Candide, Pollera, Acqua &c.'

² See his description in *Mem. Acc. Linc.*, ser. 4^a, vol. iv.

Sus scrofa. This gives us a rough estimate of the *terminus a quo*. The uppermost stratum contains Roman remains, and it is clear that the cavern must have been inhabited after the Roman conquest of Liguria by Fulvius. In all the successive periods the centre of the cave was used as a hearth, for it is here that the most conspicuous signs of fire are found at all depths.

b. Bone
objects.

The total deposit is more than 4.50 metres thick. Bone objects were common in every stratum, and took very varied shapes, arrowheads with wings, needles, daggers, lanceheads &c. The lanceheads are triangular and carefully sharpened at the tip. Small pieces of bone of circular section, coming to a sharp point, were used as heads of arrows or darts. The daggers are similarly shaped, but are larger. One is still fitted into its cylindrical handle of horn. In addition to these must be mentioned wedge-shaped chisels, polishers of cylindrical shape with blunt end, smoothers, broader in form and used perhaps for making pottery, and finally long smoothed pieces of bone which Morelli calls hairpins.

The excellence of the bone implements is one of the great features of the cavern. Even teeth are worked. A boar's tusk shaved down to about half its original thickness is provided with a hole at the pointed end and with two at the other. It looks rather like a needle for coarse work, such as net-mending, though the number of holes is against this. A very similar example, however, has only the one hole at the point. Particularly striking is a pig's canine tooth hollowed towards one end so as to form a small spoon.

c. Stone
objects.
Flint.

Stone objects were numerous. Among those of flint were the usual long knives of triangular section, straight or curved, and retouched in some cases on the edges. Arrowheads were most exceptional. Morelli quotes no certain example. Issel mentions two, one almond-shaped and the other with wings and tang, in Rossi's collection. Amerano states that the latter of these forms is represented *in the uppermost strata*. Besides these implements were found a few scrapers and nuclei of flint.

Polished axes and adzes are common, numbering over sixty. The material used is generally green stone, especially jadeite. The forms are the quadrilateral, the trapezoidal and the triangular, and the cutting-edge is curved. The polishing is never carried out over the whole surface. One of these axes was found still fixed in a handle of stag's-horn. We must also notice what Morelli calls an axe with two cutting-edges. A similar implement, more finely finished, was found in the lake-dwelling of Lagozza.¹ That these implements were used as axes seems unlikely. The example from the cave is too short to have been attached to the handle by the middle so as to form a double axe. It seems more likely that they were implements of ritual use. Two of these axes were of the chisel type, being narrow and almost cylindrical in form.

Among the most interesting of the objects are several rings, now broken, of various kinds of stone. One of these was triangular in section and had the outer circumference keenly sharpened, though in places spoilt by use. This implement must have been a club-head (cf. Pl. II, fig. 14). The material is a green stone (serpentine?). The other four rings, one of marble, another of limestone and not sharpened at the edge, are no doubt armlets.

Two beads of stone were cylindrical in form, and a fragment of a broken armlet seems to have been pierced to serve as a pendant.

Numbers of large pebbles were found in the cave. Some of these were certainly employed in grinding. The stones on which the grinding was done are mostly long, with the ends rounded; but it is curious that those found below 3½ metres from the surface are rougher and shorter, and have a slight hollow in the centre. One of these took the actual shape of a mortar, being hollowed and carefully rounded on the edges. Several pieces of limestone were pierced to be used perhaps as net-sinkers or weights. Smoothed slabs of stone furnished with a hole for suspension look like hones for sharpening bone or copper tools, and the pieces of pumice stone found in the cave may have

¹ *B. P.*, xiii, Tav. II, fig. 2

served a similar purpose. Fragments of red and yellow ochre were used to adorn the person.

d. Objects
of metal.

Of copper there were two daggers and an awl. One of the daggers is triangular, with two projections near the heel and a short rounded tang with two rivets. It is strengthened by a flat rib which occupies nearly the whole breadth of the blade, leaving only a narrow margin at each side. It measures 12×2.5 cm. (fig. 141). The other dagger is nearly rhomboid in form. However, the sides towards the heel curve out slightly and are continued by a thin tang. The length is 9.8 cm. The awl is roughly square in section, thickest at the centre and pointed at both ends.

e. Shells.

Shells were largely used for ornament. Many are simply pierced to hang as pendants or on necklaces. One fragment seems to have formed part of an armlet, produced by grinding away the most convex part of the shell so as to leave a ring. Five examples of *Triton nodiferum* have had the apex artificially removed, perhaps to form musical instruments. To these must be added three small hooks, two perforated discs, and some spoons (?) made by rounding the sharp edges of a *Spondylus*.

f. Pottery.

The pottery is all hand-made, and is of two qualities, coarse and fine. The clay contains small grains of quartz, and the surface of the vase is often smoothed over with a piece of wood or bone before baking. Some of the finer vases have acquired a good brown shining surface by exposure to smoke followed by polishing. They were all cooked at the open fire. Issel has classified the forms, and finds that the pottery of the other Ligurian caves usually conforms to his classification. Type I, spherical and ovoid vases. These are truncated at the top and usually flattened at the bottom. Type II, sphero-cylindrical and ovate-cylindrical. The lower half is spherical or ovoid, and the upper half cylindrical. Type III, ovate-conical and conical-cylindrical. In the former case the lower part is ovoid and the upper splayed out conically, while in the latter the lower half is a truncated inverted cone, and the upper is cylindrical. Type IV, cylindrical vases. These vary in dimensions, but all appear to have been used for

Forms.

cooking. Type V, vases with a distinct foot, e.g. fig. 23. These are often of the type called biconical or 'hour-glass' (fig. 20). Type VI, vases with square mouths. These are a peculiarity of the Ligurian caves. The shape of the bodies of the vases varies (figs. 21 and 22). Type VII, vases with a keel. This class includes all vases which show a marked ridge or keel at the point where the two parts of the vase meet. The simplest example is the form com-

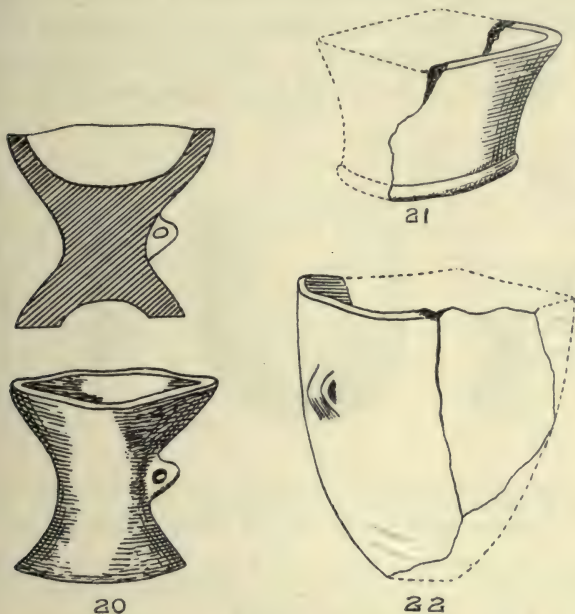


FIG. 20. 'Hour-glass' vase. Ligurian caves. (*Bull. Pal.*)

FIGS. 21, 22. Square-mouthed vases. Ligurian caves. Scale $\frac{1}{4}$. (*Bull. Pal.*)

posed of two truncated cones set base to base. Type VIII, bowls. These are rather flat in form, with a rim often gracefully splayed out. Beneath the keel there is sometimes an incised decoration of concentric arcs of circles. Type IX, cups. These are usually hemispherical or semi-ovate, small in size and without handles (fig. 24).

The handles show great variety. Often they consist of mere protuberances of hemispherical or conical form, left unpierced or with one or more holes. The most developed

Handles.

form of this type is tubular and horizontal. In the upper and middle strata was found the axe-shaped handle, and in one case this is concave at the top, so that it resembles the crescent handle of the *terremare*. Sometimes the vases were suspended by holes in or near the rim.

Ornament. The ornament is of three kinds, consisting of rather deep incisions, of strips of clay in relief, or of stamped designs. The incisions are usually of a very simple type, the stamped ornament consists of a series of comma-shaped forms, and the relief-strips may be vertical and horizontal, plain or marked with the finger. One piece of painted ware was found. The clay is pure, and the simple ornament consists

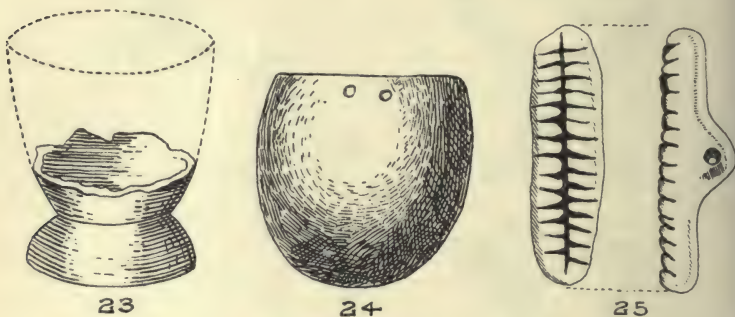


FIG. 23. Footed vase, Caverna dell' Acqua. Scale $\frac{1}{2}$. (After Bull. Pal.)

FIG. 24. Neolithic ovoid cup. Ligurian caves. Scale $\frac{2}{3}$. (Bull. Pal.)

FIG. 25. *Pintadera* from the Caverna dell' Acqua. Scale $\frac{1}{2}$. (Bull. Pal.)

of black bands. The surface is polished. There is every reason to think the vase imported.

Issel describes as lamps several shallow vases with thick walls and a tubular appendage. Three other objects of clay seem to be attempts at the plastic rendering of animal forms. This cavern has, like others in Liguria, yielded several *pintaderas* or stamps for adorning the skin (fig. 25). They were dipped in a mixture probably of red ochre, and the flat side being applied to the skin left its design in colour.

The other objects of clay included a few spindle-whorls and some loom-weights or net-sinkers. These last are spherical and pierced through the centre.

f. *Pintaderas*.

g. Other objects of clay.

Morelli discovered three interments in the cave. Each ^{h. Burials.} body was laid in a layer of prepared beaten earth, on the left side and with the knees contracted. Round it was constructed a rough oval casing of stones set on edge, with slabs laid across the top. About these slabs lay a mass of charcoal, cinders, bones and sherds, remains of the funeral feast. In one of the skeletons the left hand was held up to the head. Near the skull lay a sherd with a piece of red ochre upon it, while at the hip was a polished adze of green stone. Under the left side lay a goat's skull, and at the feet some bones of stags.

A number of other skeletons have since been found in the cave, sometimes protected by stone casing, sometimes not. The most usual objects of funeral furniture are polished axes, flint knives, shells and pieces of red ochre. One grave contained part of a fine vase of pure clay with vertical black strips painted in groups of three on a yellow ground.

The skulls are dolichocephalic, with square orbits and dental or even facial prognathism. They strongly resemble the Cro-Magnon type and are similar to those of the Arene Candide cave.

Very similar remains were found in the cave delle Arene ^{2. Grotta} Candide, which lies not far from the last, slightly west of ^{delle} Finalmarina (Map I, 4). The cave is nearly 60 metres in ^{Arene} length, cut into halves by the lowness of the roof at its centre. It contains a deposit 3.20 metres deep, regularly ^{a. Strata.} stratified. There are six or seven distinct strata, each consisting of a bed of brown earth containing charcoal, ashes, pottery, bones &c., and a bed of white earth containing fallen pieces from the roof. In the centre the remains were mixed in a veritable breccia, marking probably the position of the hearth.

Issel's first investigations took place in 1864. In 1874 ^{b. Graves.} he found at a depth of 40 cm. a hearth of blackened stone, and at 1.60 metres a grave cased with stone blocks. Seven other graves were found in 1876.

The pottery is of two types, Roman and neolithic. The ^{c. Pottery.}

first is wheel-made, and appeared only near the surface. The neolithic pottery is hand-made, of rough clay containing particles of gravel, baked in the open fire to a brown or red tint. A few finer examples have a black polished surface. The forms are similar to those of Pollera, as are also the ornament and the handles. Two of the latter should be noticed, one a long quadrangular protuberance, and the other a semi-circular protuberance with crenate or waved edge.

d. Figurines.

Other objects of terracotta were a spindle-whorl, *pintaderas*, and two idols, both of which were in a fragmentary condition. In the first the body is rectangular, broken off at the waist. The arms are mere stumps, the breasts well marked, the neck distinct, and the head spherical. The features are only faintly represented, and the eyes are marked by pieces of charcoal. Of the other there only remains a circular body with the breasts clearly marked.

e. Stone objects.

The stone objects comprise a few polished axes of green stone, a double chisel of diorite, and implements of flint and obsidian. The flint arrowheads are not common and are roughly worked. One finely flaked example, however, in Rossi's collection forms an exception to this. The example in question is lozenge-shaped and almost tanged. Flint knives are common, often with double cutting-edge, and double scrapers (*grattoirs*) occur. One short knife is of obsidian. Other stone objects are a ring-shaped club-head of jade, similar to that of Pollera, stone polishers, mortars and grinders, besides pieces of red ochre and pumice stone.

f. Bone implements.

Of bone were heads of spears, javelins, and arrows, the latter sometimes winged, polishers, and a spindle-whorl incised with concentric circles. Besides shells pierced for stringing and tubes of fossil *Dentalium*, there were small discs of shell intact or pierced with one or two holes.

g. Human bones.

Human remains were not infrequent. Many bones were found left in disorder by peasants who had disturbed the deposit in the cave. Some of the bones showed tooth-marks and signs of fire. Issel thus describes the first untouched grave discovered: The skeleton lay at a depth of 1.60 metres, protected by a casing of rough stone blocks,

and in a layer of white earth. Near the skull lay an unworked piece of stag's horn, some pieces of red ochre, once contained in a vase now disintegrated, and a polished axe of jadeite. On the thorax lay a boar's tusk with two holes at the base.

The graves of babies and young children were without the casing of stone and seldom contained much furniture. Nearly all the bodies found lay on the left side, the legs contracted, the left hand under the head and the feet towards the sea. One skull showed a large irregular patch of red ochre on the forehead. A body in Rossi's collection was accompanied by the following objects: a bone disc, a pendant made from a valve of *Pinna*, and a fragment of a large *Pectunculus*. The results obtained in this cave in every way confirm those given by the Grotta della Pollera.

The next of the series, the Caverna dell' Acqua, is of greater interest because of the light which it throws on cave-dwelling in general. The cave (Map I, 3) consists of two parts, an outer chamber, which is light and dry, and an inner. In the latter lay a deposit which contained ashes, bones of animals, including *Ursus spelaeus*, and a black flint scraper of *Moustérien* type. This deposit is considered by Amerano to be palaeolithic. The other chamber contained neolithic remains. Two human skulls and many human bones were exhumed, together with remains of stag, roebuck, ox, sheep, pig &c. The pottery is hand-made, usually covered with a slip, polished and occasionally ornamented with incised or relief work. The shapes are similar to those of the Pollera cave. The use of strainers, vases pierced with a number of small holes, should be noted. The objects of stone include polished axes of green stone, knives of flint, part of a stone ring, grinders, polishers &c. There were also bone awls and daggers, pierced shells, and a *pintadera* of terracotta. A painted vase was of pure clay, with designs in black on dirty white. The design consisted of triangles. The contents of a tomb preserved in the Rossi collection include a skeleton of a baby, potsherds, a piece of sandstone, a fragment of red ochre and a bone spearhead.

But the interest of dell' Acqua lies not so much inside the

h. Graves.

3. Caverna dell' Acqua.

a. Strata.

b. Bones.

c. Pottery.

d. Stone objects.

e. Objects of bone.
f. Painted vase.

g. The settlement outside the cave.

cave as without. Researches within the cave itself had convinced Amerano that the neolithic Ligurians lived not in caves but in the open, using the caves only for burial and for temporary habitation. In order to test this he examined the earth close to the mouth of the cave, and discovered a thick stratum of black earth containing remains precisely similar to those in the cave.¹ The pottery was hand-made and usually had a polished slip. The forms were those of the caves, and included vases with square mouths. A fragment of a *pintadera* was also found. Amerano discusses at some length the objection that this stratum contains only refuse cleared from the cave itself, and decides that the deposit collected on the spot where it now lies. His conclusion is that the Ligurians lived in the open, probably in semi-subterranean huts, and used the caves mainly as burial-places.

As to the rest of the Ligurian caves, Il Sanguineto, Bergeggi, and I Colombi, a few notes must suffice.

4. Caverna del Sanguineto.

The Caverna del Sanguineto, also known as Caverna della Matta (Map I, 5), contains a deposit consisting of the usual remains of hearths, ashes, charcoal, bones &c. The vases are of the forms distinguished in the Pollera cave. The square-mouthed vase seems to have been common. Particularly noticeable were a vase with crenate or waved rim and an incised fragment in which the incisions were filled with a white substance. Issel mentions three human skulls side by side. In the Rossi collection are remains of some six or seven bodies, three of which were those of babies. The funeral furniture of one of the babies consisted of a flattened-spherical bead of yellow amber. According to Issel, the human bones sometimes showed traces of fire.

5. Grotta di Bergeggi.

The Grotta di Bergeggi gave remains of the usual type (Map I, 6). It contained six tombs, four skeletons being complete and of similar type to those of the other caverns. The contents of a tomb now in the Rossi collection are a few potsherds, a *Murex trunculus* pierced at the apex, a small piece of worked shell, and several unworked shells, chiefly

¹ B. P., xix, p. 174.

Patella. Issel mentions a polished axe of amphibolite, an arrowhead of jasper, and knives of light flint.

Similar remains were gathered in the Caverna dei Colombi, 6. Caverna dei Colombi which lies in the island of Palmaria (Map I, 28). Rossi's collection includes knives of flint, a flake of jasper, lanceheads of bone, a pierced shell and a human vertebra.

Summing up the results of these excavations, we may assert that during the neolithic period the coast of Liguria was inhabited by a race of men who lived partly in the open, partly in caves. They buried their dead in caves, laying the body usually on its left side in a contracted position, in some cases protecting it with a casing of rough stones, and providing it with considerable funeral furniture, usually including pieces of red ochre. The Ligurian caves in general.

Akin in some respects to these Ligurian caves, though differing from them in others, are the caves of the Apuan Alps (Map I, 27), which lie just to the north of Pisa. Several caves in these mountains were examined by Regnoli some years ago.¹ One of the most important is the Grotta dei Goti, 1. Grotta dei Goti. which lies in the district of Farnocchia. In a mass of river gravel united by calcareous infiltration were found numerous remains.

The bones of animals included those of the cave-bear, stag, marmot, and ox. Of human remains only one tooth was found. Nothing, however, must be argued from the absence of bones, as, some ten years before the excavation, an inhabitant of Farnocchia, attracted by the usual legend of buried treasure, dug over much of the earth in the cave and threw out all the bones he found.

The remains of human industry were few; a few teeth of animals, adapted for cutting or piercing, several fragments of pottery similar to the coarse type in the Grotta all' Onda, and eight rough flakes of stone.

The deposit also contained fragments of charcoal.

The cave was used, according to Regnoli, during the period of the cave-bear as a habitation,² but the presence of the human

¹ Regnoli, *Ricerche nelle Alpi Apuane*, 1867.

² Regnoli's report, however, by no means proves this.

tooth suggests that it also served for burial. Had the deposit remained undisturbed by the treasure-seeker we should no doubt have had much more satisfactory evidence on the point.

Fortunately, however, there is no such doubt regarding the next cave, that called Il Tamaccio, which lies among the Apuan Alps near Casoli. Excavations to the depth of a metre at various points of the floor yielded no results. However, in the left side of the cave as one enters is a small recess, only 72 cm. high, the entrance to which was guarded by large stones. These removed, and the earth within the recess examined, it was found that the recess had been used as a burial-place. Two huge boulders blocked it up at the back, and the impossibility of moving them put an end to further excavation in the recess.

The human bones were comparatively numerous. They were mixed up in a stratum containing pieces of charcoal, shells, pottery, and bones of ox, stag, sheep, pig (?) and bear. A few of the bones belonged to birds. The land shells included *Helix* of various species and *Cyclostoma elegans*. The marine shells were three *Patella* and two *Pectunculus*.

Sixteen sherds of pottery were found, similar to those of the Grotta all' Onda. One was of the finer polished type, the rest of the coarse kind. Forty-six clay balls of about the size of cherries form a remarkable feature of the deposit. They are of natural clay, not strengthened by the addition of sand or grains of quartz, and lightly fired.

Regnoli suggests that these are not sling-stones but ritual objects of some kind. This is certainly supported by their small size (the so-called sling-stones at Alba are many times larger), and by their technique. The qualities naturally essential in a sling-stone are compactness and hardness, both of which are absent from these objects, owing to poor cooking and lack of quartz fragments.

Stone was rare, and there were gathered only a core of jasper and a polished river pebble, probably of diorite.

It is manifest from the absence of remains in the main chamber of the cave that it was not used as a dwelling-place,

but solely as a sepulchre. In connexion with this must be

2. Il Tamaccio

a. Burials.

b. Pottery.

c. Sling-stones (?).

d. Stone objects.

e. Altar (?).

mentioned a large block of limestone found near the left wall of the cave, 10 metres beyond the recess. The form of the block resembles that of 'the seats one sees in scenic representations of a prison or a garden'. On the more level surface, presumably the upper, are two roughly circular holes, one slightly above the other. Their diameter is about 20 cm., and they are fairly deep and well polished. Between the two runs a channel 30 cm. long. The description sounds like that of a rough libation-table, rather resembling those of Minoan Crete. It also suggests the rough tables in the megalithic monuments of Hagiar Kim, in Malta.¹ Careful excavation in the neighbourhood of this libation-table failed to reveal remains of any kind. This seems to show that we have to deal not with a cult of the dead but with a sacrifice at the time of interment, the total remains of the sacrifice being buried with the body.

Just as this cave is the most important of the group as far as regards the disposal of the dead, so the Grotta all' Onda is the most important for the study of the habits and civilization of the living.

It is a large cave at the foot of Mount Matanna. The floor is covered by a deposit consisting of three separate strata. The upper consists of vegetable earth containing pieces of limestone. The middle is of grey earth, with rare fragments of charcoal and bone. The lowest begins at 20 cm. from the surface and is 14 cm. in thickness. It is of an intense grey tint, and contains all the remains described below.

In a retired part of the cave were found several other bones belonging to two children of not much more than a year in age; remains of two older persons were also discovered. The animal bones included those of the cave-bear, stag, roebuck, pig, marmot, badger, wolf, dog, ox, goat and sheep. Remains of birds were rarely found. Shells, both fresh-water and marine, were abundant. No vegetable remains occurred, except pieces of charcoal.

Of bone were made a number of awls or borers, and some pointed weapons evidently used as spearheads. These last were each worked from half a bone, which had been split

¹ Mayr, *Die vorgeschichtlichen Denkmäler von Malta*, Tafel VII, 1.

down the middle in such a way that the concave inner surface of the bone would be of use in securing it more firmly to the stick. Two fish-bones perforated at one end were probably used for sewing. Flat broad pieces of large bones, which are now observed to be smooth on the surface, are undoubtedly polishers used in finishing the finer pottery.

Teeth of the bear, pig and dog were employed for boring and for polishing, while a canine tooth of the pig was worked into a small but very sharp knife. Two sharp objects of horn seem to have been used as awls.

e. Polished stone.

Of polished stone are a hatchet of jade, another probably of diorite, and a polisher of omphacite (?). A number of rolled pebbles, mostly of serpentine and jurassic limestone, were used for grinding and pounding.

f. Flint.

The more common stone weapons were made of various silicious materials, e.g. flint, jasper, carnelian, or else of obsidian. Rectangular knives of triangular or trapezoid section are common, the smaller examples being often of obsidian. Similar implements carefully flaked to a dull round edge at one end, and sometimes also chipped along the sides, look like scrapers. One example is of elegant curved shape. Arrowheads are of two kinds, those of triangular shape, worked on one face only, and those with wings and tang, worked on both faces. The occurrence of both types is of interest, as showing a combination of the earlier and later phases of the neolithic culture. The best of the arrowheads has not, however, the finish of those belonging to the eneolithic¹ period. In conclusion must be mentioned a broad rectangular knife, running to a dull point at one end and with a deep inset in each side towards the top.

g. Ornaments.

Among objects probably used as ornaments were a wolf's tooth with a hole in the fang, a small disc of terracotta pierced in the centre, and numerous shells, of *Patella*, *Cardium* and *Pectunculus*, all bored for hanging.

Three spindle-whorls of terracotta were found.

h. Pottery.

The pottery of this cave, now lying in the Geological Museum at Pisa, has been specially studied and described by Colini.² The series is so important for the study of

¹ See p. 185.

² *B. P.*, xxvi, p. 196.

Italian neolithic pottery in general that it is necessary to examine it in detail.

Among the fragments collected three different qualities of ware are to be noticed. The first is rough and coarse, the second is smoother, the outside of the vases being worked over with a flat implement, while in the third quality the outside of the vase is covered with a thin brown or black slip and finely polished until it is bright and shining. The clay used for all qualities is dark grey, mixed with grains of sand or quartz or with small particles of organic matter. In some of the finer vases the clay is purified.

Three
types.

The coarser vases were apparently used for culinary purposes. They include jars with spherical body, contracted at the neck and with the rim splayed out. Other vases stand on a flat bottom, with walls rising vertically or sloping out. The handles are usually of the 'ribbon' type, made of a broad ring of clay bent round and applied vertically. In some cases horizontal tubular handles are used. The rough vases are decorated with ridges running around the body, sometimes pitted with the finger. The vases of medium fineness still preserve the grains of sand or quartz in the clay, but they are smoothed over the surface both inside and out, while the firing is light and incomplete. The most usual shapes are cups and bowls of inverted-conical, cylindrical or hemispherical form, with rims simple or thickened or splayed out. The place of the handle is often taken by a horizontal tongue of clay, rectangular, rounded, or ended like a swallow's tail. These protuberances still show the mark of the fingers used in moulding them and in attaching them to the vase. Occasionally we find a short vertical ridge with horizontal holes bored through it for the passage of strings. The ornament consists of impressed or relief-work. Around the rim is often seen a row of short parallel marks made by impressing a stick-end on the wet clay, or a row of crescent-shaped impressions made by the thumb-nail (Pl. I, fig. 3). A very few sherds show a number of pits made by a blunt stick-end and arranged in some simple scheme. The relief-work generally consists of a row of small knobs attached just below the rim, or formed by pinch-

Coarse
ware.

Relief-
work
ornament.

ing up the surface of the still damp clay. Sometimes a few larger knobs are arranged at wide intervals around the body of the vase.

Fine ware. The fine vases are well fired, though the clay is not invariably purified. The walls are sometimes moderately thick. After a preliminary firing a coat of fine clay was applied to the surface and finely polished, after which the vase was again fired, though in some cases the second firing was omitted. The handles consist often of a tongue of clay set horizontally, or a protuberance pierced with string-holes. One of the most important forms is the so-called *bottiglia*, a flattened-spherical vase with a narrow neck and string-holes round the body (cf. Pl. II, fig. 10). This form afterwards remained common in eneolithic times. Ornament consisting of knobs was common. Two pieces, however, show incised ornament consisting of bands filled with hatching and arranged in definite patterns. This is exactly similar to the ware of the San Bartolomeo cave in Sardinia, of Moarda in Sicily, of Matera, and elsewhere in Italy. In my opinion this type of ornament reached Italy from abroad only towards the end of the neolithic period and flourished during the eneolithic, under which head I have accordingly discussed it (p. 266). The two examples in question are so badly executed that they may well be attempts to copy from imported specimens.

Incised
ornament.

Two other caves in the Apuan Alps remain to be mentioned, those of Ugazzi and Guerra. The former lies near Monte Argentario, in the province of Pisa. It was probably used as a burial-place, as several fragments of human bones were found in it. Five well-made arrowheads of flint and two stone pendants are the sole remains preserved.

4. Grotta
degli
Ugazzi.

5. Grotta
della
Guerra.

The Grotta della Guerra lies in the Alps of Corfino, Gargagnana. It contained bones of the ox, pig, sheep, and stag, together with shells of the genus *Helix*, and may therefore have been used as a habitation. Instruments of horn and bone were found, showing a great similarity to those of the Grotta all' Onda. Of stone were a jasper blade used as a saw, and six arrowheads of jasper or flint, some of them being very small. The pottery included several of the small

earthenware balls which occur in the Grotta del Tamaccio, and a large biconical spindle-whorl, an object which dates the deposit or part of it to the latter part of the neolithic period, if not later.

Regnoli also explored two other caves not actually in the Apuan Alps. The Grotta di San Gorgonio (Map I, 30), in the island of Gorgona, was probably used as a dwelling-place, containing as it does numerous split bones of animals and shells of *Patella* and *Trochus*. Stone implements are rare. Of the two flint arrowheads one is formed from a fine flake by chipping the edges on one surface only. The other remains consist of a flint borer, a rectangular pendant of schist, and several pieces of limestone, bored perhaps to serve as net-sinkers. The pottery bears a close resemblance to that of the other caves in Tuscany.

6. Grotta di San Gorgonio.

The Grotta di Talamone lies in the Tuscan Maremma. The notice of the excavation is very incomplete, and scarcely allows any safe inference as to the use to which the cave was put. The contents of the deposit point rather to a burial-place than a habitation, and in fact Colini quotes the cave as one used exclusively in the former capacity.

7. Grotta di Talamone.

The animals represented are the beaver, cave-hyena, ox, stag, porcupine, horse, boar, badger, fox, sheep and hare. One bone may have belonged to the rhinoceros, but Regnoli puts a query against it, and in view of the other contents of the cave his doubt is well grounded.

The human bones consist of a piece of a thigh with signs of gnawing upon it. This must not be taken as a proof of cannibalism, as many of the animals whose remains were found in the cave are known to have the habit of gnawing bones, particularly the porcupine and beaver.

Thus in Tuscany as in Liguria we find a group of caves which were used during the neolithic period both for habitation and for burial. The pottery found in all the Tuscan caves is of much the same type, and we are justified in believing that all these cave-dwellers enjoyed one and the same civilization. This civilization, though probably in the main contemporary with that of the Ligurian caves, differs from

Caves of Tuscany in general.

Comparison with those of Liguria.

it in many particulars, especially in respect to its pottery. Besides more general differences, we may note the absence in Tuscany of the square-mouthed vases and *pintadera* so frequent in Liguria.

Burial.

Unfortunately the disturbed state of the deposits has left us no evidence as to the exact position in which the dead were laid in these caves of Tuscany, so that we can institute no comparisons with Liguria on this point.

Obsidian.

A feature which both groups of caves have in common is the presence of implements of obsidian. As this is not found in a native state either in Liguria or Tuscany, both these districts must even at this early date have had trade-connexions with Sardinia or the Lipari Islands, or some other of the obsidian-bearing islands.

Rock-shelters.

But it was not always that neolithic man had the good fortune to find a suitable cave ready to his hand. In these cases, rather than live out in the open, he often preferred to seek the shelter of a vertical or, still better, an overhanging cliff. North Italy has given two good examples of this. The first, that of Dos Trento, is, to be precise, just over the Austrian frontier, and the other is near Susa, on the Mont Cenis tunnel route.

1. Dos Trento.

The rock-shelter of Dos Trento¹ lies under the north-east side of the rock of that name (Map I, 15). Its floor is formed by the flattened summit of a huge slope of *detritus* forming a kind of buttress to the mountain, and a projecting mass of rock provides a roof. The length of the shelter is about 30 metres and its depth from 4 to 8 metres. The floor is covered by a fire-blackened stratum from 0.50 to 1.20 metres thick, containing charcoal, ashes, and remains of human workmanship. Towards the top of the slope of *detritus*, i. e. just below the dwelling, were found numerous bones of animals, remains of food thrown away by the inhabitants. Most of the site has already been destroyed in carting stone for embankment work, and the only objects which survive are a few flints, including an arrowhead, several sherds, and four axes of chloromelanite. These fortunately are enough to

¹ B. P., xvi, p. 132.

fix the date of the station with great probability to the advanced neolithic period, though it may possibly be later.

Fortunately there is no such uncertainty as to the date 2. Vayes. of the other rock-shelter, that of Vayes, in the valley of Susa. No one who has crossed the Alps by the Mont Cenis route will forget the view into the valley in which Susa lies. Ten years ago Prof. Taramelli, thinking this valley a likely place for neolithic remains, had searched it with some success. It was not, however, until 1902 that he was able to make any definitive excavations there.¹ Near Vayes (Map I, 1) exists a large quarry of gneiss, in which remains still untouched a small rock-shelter formed by a huge fall of rock ages ago. This rock-shelter was found to have been inhabited by neolithic man, and both within the shelter and close to it various objects have been recovered from the earth. In the shelter itself was found a thick stratum of dark earth containing charcoal, animal bones broken in pieces, potsherds, and other remains of everyday life. The animal remains, which included bones of the ox, stag, wild goat, hare &c., show that the inhabitants of the shelter were hunters and pastoral people.

a. The deposit.

The stone implements include a number of fine polished adzes, axes and chisels, the materials used being jadeite, diorite and amphibolite. From some part of the quarry comes also a fine wedge-shaped hammer-axe with a hole for the handle.

b. Stone objects.

The objects of bone consisted of the usual borers brought to a sharp point and highly polished.

c. Bone implements.

The pottery is of a very interesting type and deserves description in detail. It was very fragmentary, but three types were distinguishable: a type with a rough surface, used mostly for large vases, a type with surface merely smoothed over, and a type with surface polished. The coarse type included large jars with flat bottom and rounded sides, the decoration being limited to ridges of clay standing out in relief, and pitted with the finger or with a blunt stick. Sometimes, however, there was no ridge, and the ornament consisted of a ring of circular impressions round the vase.

d. Pottery.

Rough type.

¹ B. P., xxix, pp. 1 and 125.

Medium
type.

The medium type, which was most used, is of half-purified clay, and the surface is covered with a coat or slip of finer clay, which is then smoothed over. These vases are better baked than the former, being fired in some cases to a red colour throughout. The handles were usually of the ring shape, set horizontally on or near the rim, but in some cases their place was taken by rough knobs, which, no doubt, were less liable to break off. A common ornament in this class is the ridge of clay in slight relief, slashed across at short intervals with a fairly sharp cutting implement. Sometimes, however, the ridge is in higher relief, and quite deep pits are made in it at short intervals with a blunt stick-end. Again, the ridges may form simple patterns around the body of the vase, festoons, or a series of V's. Moreover, akin to this ridge-decoration is that produced by cutting up thin strips of clay and laying them over the surface of the finished vase. The effect is much the same as when the ridge is moulded in making the vase, but the relief is a little more marked. One vase, besides a pattern of ridges at right angles, is also adorned with a number of ring-shaped impressions made by the end of a tubular stalk. This has an exact parallel at Alba Cuneo. A simple ornament consists of a large protuberance of clay on the surface of the vase. Finally, the vase may be worked with a stick-point with great regularity and care, so that it shows a square pattern like that on a golf-ball, or a very similar result may be obtained by tracing out with a stick a number of parallel furrows and then another set at right angles to the first.

Finer type.

The finest vases were of purified clay, covered with a slip, usually brown, which was finely polished. The walls of these vases were thin, and as a rule they were without ornament.

The rock-shelter of Vayes may be with certainty attributed to the *early* neolithic period in Italy.

Unusual
remains
in the
Veronese
district.

Before leaving North Italy we have to deal with two sites of an entirely different type from those so far examined. Not that the method of living was here necessarily different,

for it is still with caves and rock-shelters that we are to deal. But the material found on these sites, and especially the flints, differs so completely from all other neolithic remains that it must be placed in a class by itself, and probably attributed to a different people.

The sites in question, Breonio and Rivole, or Rivoli, lie to the east of Lake Garda, in the province of Verona. We must now examine them in detail, taking first that of Breonio (Map I, 14).

The Monti Lessini, which lie north of Verona and east of Breonio. the Lago di Garda, afford a natural refuge to a primitive people. Consequently it is not strange to find that they abound in archaeological remains. These remains are remarkable in many senses, and to a great extent have no parallel in Italy.

The earliest inhabitants of the Monti Lessini appear to have been cave-dwellers. From present appearances they lived not always in deep natural caves, but often under the shelter of overhanging leaves of rock. The most important of these *abris sous rocher* is that of the Scalucce at Molina, which was excavated in 1876. The archaeological stratum which lay at the foot of the cliffs contained numerous animal bones, the remains of food, and two human skulls.

The most interesting objects found are the flint implements. First and foremost must be mentioned the flaked axes (Pl. I, fig. 4).

These are rectangular or oval in form, worked roughly all over, though in places the core still shows, and brought to a sharp convex edge at one end. But the remarkable fact is that the edge is frequently formed by working on one side only, while the other side shows apparently one large flake chipped off (see fig. 66). This is more noticeable in some cases than in others; indeed sometimes the edge appears to have been obtained by fairly fine flaking on both sides.

Side by side with these axes we find the *tranchet* or *coupoir*, a triangular or trapezoidal adze, flat and unworked on one face, and roughly flaked on the other, which is convex (cf. fig. 72).

a. Caves or
rock-
shelters.

b. Flint
celts.

The cutting-edge gives the appearance of being formed by the striking off of one large flake from the convex face. These *tranchets* have an exact parallel in those of the Danish *kjökken-möddings*, the significance of which will be discussed shortly. It should be noted that occasionally the implement is so narrow as to deserve the name of a chisel rather than an *axe* (cf. fig. 73). The length is generally less than 10 cm.

d. BORERS.

Next to these come a series of what are probably borers, rather similar to the *Moustérien* type already described,

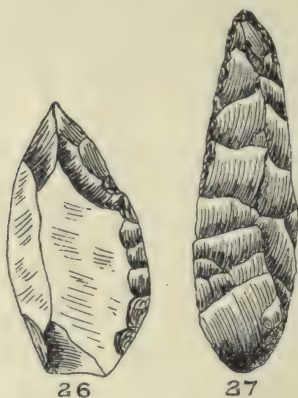


FIG. 26. Flint borer from Breonio. Scale c. $\frac{1}{3}$.
FIG. 27. Flint spearhead (?) from Breonio. Scale c. $\frac{1}{3}$.

worked almost entirely on one side and with the finer chipping restricted to the edge (fig. 26). To these should be added the disc-shaped scrapers also of *Moustérien* type, (cf. fig. 19). Of later appearance are several saws made from rectangular flakes worked on one or both of the long edges. One example is curved, just as are those of the lake-dwellings and *terremare*. The usual neolithic longitudinal knife is common, and one of its ends is often brought to a point. More unusual are a series of borers or lance-heads formed by taking a thin longitudinal flake, working it on one face only to a long sharp point by fine flaking confined to the edges (fig. 27).

This form occurs in large numbers. Even more remark-

e. Scrapers.

f. Saws.

g. Knives.

h. Lance-heads (?).

able are a series of leaf-shaped lanceheads very similar to those which occur in the *Solutrén* period in France (cf. Pl. I, fig. 2). They are worked in quite fine flakes over both faces, which are very nearly flat, thus rendering the implement thin and light. Of these we shall speak later. From them must be distinguished several implements of similar appearance, but much thicker and without a point. These are doubtless scrapers.

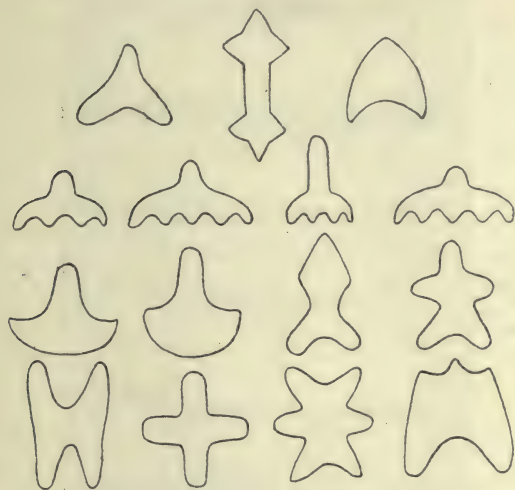


FIG. 28. Forms of 'freak' flints. Breonio. Scale c. $\frac{1}{2}$.

Quite distinct from these are a large series of true arrow-^{j.} Arrow- heads. They are not worked in the minute fashion usual in Italy in late neolithic and in eneolithic times, but still show the main facets of the original flake, while the working is confined to the edges. The forms are most variable, and include the leaf-shaped, the trapezoidal, and that with wings and a tang. A few arrowheads and one dagger show the forms and style of working usual in the eneolithic period.

Last of all must be mentioned a number of so-called ^{k.} 'Freak' flints. These are fairly finely worked all over and take various forms, mostly quite fantastic. Sometimes they seem embellishments of the arrowhead shape (fig. 29), but

others are more difficult to class. Fig. 28 gives most of the principal types in miniature. None of these flints were found at the Scalucce at the time of the regular excavations, but they are reported in large numbers from various parts of the Breonio district.

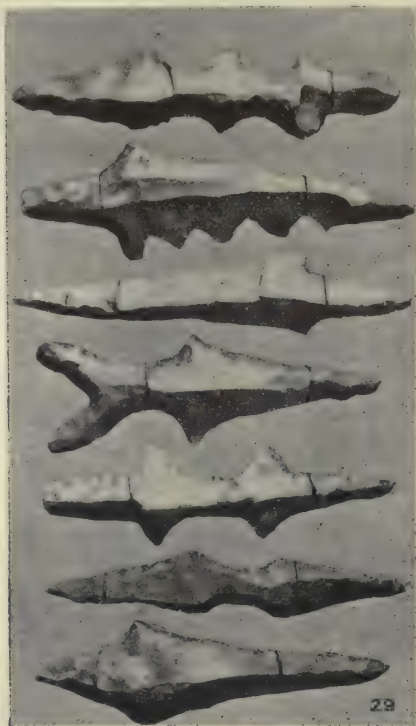


FIG. 29. Freak flints, Breonio. Scale c. $\frac{2}{3}$.

l. Bone
objects.

The objects of bone include borers of the usual type (Pl. I, fig. 5), teeth pierced at one end to be used as needles, and small cylindrical beads of bone.

Among the objects of stone were rounded pebbles, perhaps used as sling-stones, large flat stones used for grinding corn, and two polished axes.

m. Pottery.

The pottery is uninteresting. It is grey in colour, coarse and badly baked. The ornament consists of strips of clay laid over the surface in relief and sometimes pitted with

the finger, or of finger- or nail-marks impressed on the still damp clay of the vase. Among the complete vessels were a hemispherical cup with flat bottom and a low jug with spherical body and cylindrical neck. Several earthenware spindle-whorls were found.

In connexion with the material of Breonio, two questions have to be discussed. Firstly, what is the date and character of the settlement, and secondly, are the so-called 'freak' flints genuine or forged?

The first question is not really difficult to answer. Assuming the material of Scalucce to belong to one period—and the excavations give no evidence to the contrary—that period is the neolithic. The occurrence of pottery, spindle-whorls, and polished axes precludes the palaeolithic, while the few examples of fine flaking point to a fairly advanced date even in the neolithic age. Is it, then, not extraordinary that the material should be so palaeolithic in its appearance; that we should find the *tranchet* and the *Solutréen* lance-head? These facts are so remarkable that Pigorini, who supposes the neolithic culture in Italy to be due to the immigration of a new race (p. 165), suggested that among the Monti Lessini the older palaeolithic inhabitants continued to dwell even in neolithic times, learning the arts of pottery-making and stone-polishing from their new and more cultured neighbours, yet continuing their old industry of flint-flaking and preserving the old forms of their implements.¹ And indeed, any one who studies carefully the material at Verona will find that this theory appeals to him very strongly.

Date of
Breonio
deposits.

The question of the genuineness or otherwise of the so-called 'freak' flints is more complicated, and cannot be fully treated here. I have discussed it elsewhere, and merely sum up the conclusions to which an impartial examination must lead.²

Are the
'freak'
flints
genuine?

In the first place, eccentricity of shape is no criterion whatsoever of falsity. Secondly, no doubt attaches to any

¹ *B. P.*, xxviii, pp. 158 sqq.

² *Annals of Archaeology and Anthropology*, published by the University of Liverpool, vol. i.

of the Breonio flints except those of extraordinary forms. Thirdly, there is overwhelming evidence that some of such forms were actually found in position in undisturbed ground by competent excavators. Fourthly, these 'freaks' probably date not from the neolithic but from the bronze or iron ages, during which the flint industry continued to develop among the people of Breonio. Lastly, the fact that 'freak' flints are even now being manufactured and sold at Verona does not affect the genuineness of examples found in scientific excavations.

Rivoli. If we except the absence of freak flints, the material found at Rivoli (Map I, 13) is very similar to that found at Breonio. Near the small town of Rivoli, on the right bank of the Adige, rises a rugged mass called La Rocca. Round its base lie small tracts of soil protected by the rock and naturally adapted for habitation. It was on one of these small levels called Régano that the first discoveries were made.¹ Régano is bounded on one side by the river, on the other by an overhanging mass of rock. The remains found were all united in a deposit varying from 70 cm. to a metre in thickness. They consist of axes, lance- and javelin-points, knives, flakes, and refuse of flint, together with rough potsherds and bones of animals. On the south slope of the Rocca, at the top of a small rock, lies another stretch of soil containing similar remains. Close to this again, on a terrace in the hill-slope, lies a third inhabited site, known as Lo Spiazzo. Here, at a depth of 65 cm., was found a small human skeleton, buried in the squatting position.

b. Bones. The animal bones were for the most part in a very damaged condition, and it was not always possible to discover more than the genus to which a particular bone belonged. The ruminants included members of the *Cervus* family, among which was certainly *Cervus elaphus*. The *Bos* family was represented, but the species was unascertainable, while the roebuck, chamois, and ram are probable. The wild boar

¹ B. P., i. 142; Pellegrini, *Officina preistorica a Rivoli Veronese*, Verona, 1875.

and hog are certain. Of the carnivorous animals several were represented, including perhaps *Ursus arctos*.

The pottery is of local clay, mixed with small grains of c. Pottery. stone. It is hand-made and incompletely fired. The colour is usually black, except in the case of vases which, used for cooking purposes, have become reddish. The forms are difficult to ascertain. There are, however, signs of cups with flat bottoms, bowls with elementary ring-feet, and strainers. The handles are simple, and consist of vertical rings of clay-ribbon slightly incurved on the edges. Decoration is limited to incisions made with a fairly sharp point. The designs are all composed of straight lines, and consist in series of V's one within another, rows of hatched triangles, sets of parallel zigzags and chessboard patterns. The ornament often covers the handles. A few fragments show 'wavy-line' ridges projecting from the surface. These no doubt served as handles.

The implements of bone are mostly borers, these being d. Bone implements. sometimes made of teeth. There were, in addition, chisel-shaped implements, and a hog's incisor tooth perforated at the base, used perhaps as an ornament hung round the neck.

All that we have so far examined points to the neolithic age, and we can therefore assign to that period all the other remains found indubitably in the same stratum, including, that is to say, the implements of stone.

Foremost among these is a type of axe which strongly e. Flint celt. recalls the *Chelléen* form. It is roughly trapezoid, with sides slightly convex, and is worked all over with fairly small flakes except at the cutting-edge. This is formed by striking a large flake from each side. The edge is thus the intersection of two planes, these being as a rule inclined at different angles to the vertical (cf. Pl. I, fig. 4). Exact parallels exist in the peninsula of the Gargano.¹ Besides f. Other Chelléen types. this type there are others which are distinctly of *Chelléen* form. The former is rectangular with well-rounded edges, worked on both sides in small flakes, and with the greatest thickness near the centre. The second is elliptical, brought to a point at the top and with the greatest thickness near

¹ *B. P.*, xxviii, pp. 63-5, figs. 1-3.

the base. Finally, we have a numerous collection of the finely worked leaf-shaped lanceheads of *Solutréen* type. These vary considerably in shape and size. Some are of true olive-leaf shape, some almost rhomboidal, some have the greatest width at the centre, others have it somewhat lower (Pl. I, fig. 2). The average length is about 6 cm. The implements are very carefully made, and are worked all over both faces in small flakes until they become as thin as is consistent with strength. These lanceheads are by far the finest worked implements found on the site, and in point of date belong without doubt to the full neolithic period in Italy, despite their manifest *Solutréen* form.

The rest of the flint implements form a complex of forms which fall into classes merging into one another, and therefore difficult to describe.

There are, in the first place, numbers of the usual rectangular knives of triangular or trapezoidal section. Some of them are not truly rectangular, the sides converging slightly at one end. A few are chipped on the edge, possibly to be used as saws. One short rectangular fragment is notched down one side with very regular and deeply-cut teeth. A second type of implement, very numerous indeed, consists of a triangular flake, flat on one side, long in proportion to its width, with the upper side formed of two or at the most three longitudinal planes forming a stout rib. The apex is brought to a more or less sharp point by removing small flakes, and the base is unworked. Some of these implements are obviously borers, others may be lanceheads. Some are worked in secondary chips all over the upper face; one of these has become almost cylindrical and is at no point as thick as a lead pencil. A third type of implement, also very numerous, resembles the last, except that the base is worked, and the form is leaf-shaped rather than triangular (cf. fig. 27). This type suggests a lancehead much more than the former. Another type, a particularly interesting one, is shaped like a segment of a circle. The chord is unworked, and consists of a plane perpendicular to the plane of the instrument. The arc is brought to a fine edge by flaking along about two-thirds of its length.

g. *Solutréen* lanceheads.

h. Flint knives and saws.

i. Borers.

j. Lancehead.

k. Scraper.

The result is a scraping or cutting implement well adapted for holding in the hand. Sometimes the shape is triangular rather than segmental.

Finally, there is a long series of arrowheads mostly of typical neolithic shapes, leaf-shaped, rhomboidal, winged, tanged, concave at the base, winged on one side only. These, however, do not show the perfect work of the advanced neolithic and eneolithic periods, being indeed inferior to the *Solutrén* weapons already mentioned.

The inferences to be drawn from the facts observed at Rivoli are as follows. The settlement is probably, like that of Breonio, due to descendants of the palaeolithic people who remained here undisturbed after the arrival of the new neolithic race in Italy. They adopted much from the new civilization, making for themselves pottery and flint implements of neolithic type. Some of the finer stone products, such as the polished axes, may have been imported from their new neighbours. At the same time, they did not by any means renounce the old palaeolithic types of weapons, continuing to make and use those known to their ancestors.

The most striking fact of all, however, is the virtually complete absence of the phase of stone working called *Moustérien*,¹ in which the implements were usually chipped on one side only, the other being left just as it was split from the core.

The absence of the *Moustérien* type and the presence of both *Chelléen* and *Solutrén* in the same stratum seems to point to two conclusions. Firstly, the *Moustérien* was, in Italy at least, not a phase through which *Chelléen* civilization afterwards passed, but was perhaps introduced by new people. Secondly, the *Solutrén* phase in Italy was an outcome of the *Chelléen*, or at least was developed among the

1. Arrow-heads.

The inhabitants of Rivoli and Breonio.

Absence of *Moustérien* industry.

¹ It is perhaps safer to utter a caution against the unintentionally deceptive language of Pellegrini, who in his original report on the settlement divides the stone weapons into 'those worked on both faces or all round, and those having one face determined by a single flake and the other formed by several longitudinal flakes'. In the latter class he is referring to implements of an indubitable neolithic type, such as knives and scrapers, and not to *Moustérien* weapons at all.

same people, and had its highest development during neolithic times, i. e. when the neolithic race had already entered Italy.

B. South Italy. But we must now pass on to consider the caves of South Italy. As early as 1871 Rosa had shown that in the Vibrata Valley caves were used as dwellings in the neolithic period (Map I, 36).

Valle della Vibrata. Two caves in this valley show considerable signs of habitation in neolithic times.¹ The first is called the Grotta di Salomone. It is 9 metres in depth and 7 in height in the centre. At a depth from the surface of 30 cm. human remains began to appear. The pottery was in very small fragments, some very coarse, some rather finer. Of stone there were found a polished axe, a fine knife of black flint, a sandstone spindle-whorl, a disc of limestone with one side smooth, used perhaps for polishing, and an ovoid piece of sandstone probably used for grinding. Among large numbers of animal bones, mostly split to extract the marrow, was a piece of a human upper jaw. The stratum actually excavated was a metre in depth and was full of ashes and charcoal.

b. Grotta di Sant' Angelo. The second cave is the Grotta di Sant' Angelo, used for some time past as a church. Through a passage 17 metres in length one enters a huge cavern 29.50 metres long, from 8 to 13 metres broad, and from 15 to 30 metres high. In one side of this opens a smaller cavern called the *grotta oscura*. It was at the entrance to this small cavern that the first excavations were made. The earth, of a reddish brown colour, proved to be composed of charcoal, ashes, and organic remains. It contained potsherds of a coarse kind, a flaked knife of flint, several nuclei, an axe of hard sandstone, three bone awls, a piece of sharpened bone, and finally unworked animal bones. Excavations at several points in the main cavern gave similar results, always the same coloured earth with sherds or bones, the latter often split

¹ Rosa, C., *Ricerche di Archeologia Preistorica nella Valle della Vibrata*, 1871, pp. 35 sqq.

to extract the marrow. Several flint knives were found, together with pointed bones and a polished axe of schist. Among the bones occurred a human upper jaw. The vertical sections exposed showed in all parts of the cavern several successive layers of charcoal and cinders separated by the usual red-brown earth. Evidently the cave was used as a habitation for a considerable period, and probably by several families at once. In the wall opposite the entrance and at a height of 3 or 4 metres from the floor were two small recesses. One of these contained traces of a hearth with pieces of bone and sherds, the latter incised, and attributed by Rosa to the bronze age. The sherds are of finer work than any others found in the cavern.

Rosa's excavations proved the use of caves as dwellings, though the evidence of one human upper jaw is scarcely sufficient to prove their use for burial. The custom of burying in caves was, however, proved by Botti's excavation on Capo di Leuca about the same time.¹ Caves as dwellings.

The Grotta del Diavolo (Map I, 62) is situated high up on the mass of rock which forms the cape.² Of its three parts one only is of archaeological interest. Here a few centimetres of stalagmitic concretion cover a mass of breccia containing bones, carbon, stone implements, potsherds &c. Of the bones a few only are human, the rest comprise those of the stag, ox, sheep, wild boar, pig, wolf, horse and hare. Sea-shells are very common, the most usual being *Patella* (two species), *Spondylus* and *Pectunculus*. Flint implements mostly take the form of rectangular knives of trapezoid section, very worn on the edges, which in some cases may have been artificially chipped. Three rectangular pieces of obsidian were also found. Among instruments of bone, awls and polishers are the most usual. The pottery is of a rough grey-black clay, and was too fragmentary to allow of much reconstruction. The handles show some variety. We find the horizontal tubular handle, the horizontal cylindrical, with or without two vertical holes and with Grotta del Diavolo.

¹ Botti, however, states that the bones showed no sign of burial, and thinks they point to cannibalism.

² Botti, *La Grotta del Diavolo nel Capo di Leuca*.

the extremities slightly raised, a protuberance of rectangular section pierced horizontally, and vertical ribbon handles, sometimes depressed above.

Caves
used for
burial.

1. Pietra-
pertosa.

Since, however, even the evidence of the Grotta del Diavolo may be thought insufficient to prove that caves in South Italy were used for burial, it is necessary to add two instances in which no doubt is possible, the caves of Pietrapertosa and Romanelli. The former lies close to the railway, between the stations of Albano di Lucania and Campomaggiore, province of Potenza (Map I, 57). The account of the finds given in *Not. Scav.*, 1890, p. 21, is somewhat obscure, though some of the essential facts are clear. The first find consisted of 'human and animal bones under slabs of local rock, still in position'. Afterwards was discovered a cave 'in the soil of which, among remains of animals and many fragments of primitive pottery, lay a male skeleton'. Similar remains are found further towards Metaponto. The conclusion drawn by the writer of the report is that in the localities indicated were tombs and stations of the neolithic period. There is, however, nothing in the report which points to the actual finding of dwelling-places. What we may with certainty affirm is that there existed a cave used for burial purposes, and that bodies were also buried under slabs of rock, presumably in the open.

2. Grotta
Romanelli.

The other cave, that of Romanelli, is doubly interesting, for it served both for habitation and for burial. The cave lies in the Terra d' Otranto (Map I, 61). An upper stratum contained remains of human occupation which were attributed by the excavator to the palaeolithic age.¹ Pigorini, however, has shown conclusively that they are neolithic. The stratum consists of earth mingled with human and animal bones, remains of hearths still in position, and objects of bone and stone. The hearths consist of heaps of cinders. They are three in number, and one is surrounded by very large stones, perhaps seats. The flints included rectangular knives, javelin-points, saws, scrapers, small discs, borers, incisors and nuclei. Polished axes and arrowheads of flint are lacking here as in the Grotta del

¹ *B. P.*, xxx, p. 145.

Diavolo, and this is strong evidence for attributing the remains to the earlier neolithic period.

Three more or less entire skeletons were found, two of which were those of babies, and bones of five other individuals. The babies were apparently buried in a vertical position. As the burials seem to have been disturbed, it is impossible to draw any conclusion from them.

The main facts that emerge are that the cave was used both as a sepulchre and as a dwelling, probably at different times. The complete absence of pottery is curious, but the area excavated was comparatively small.

It is already clear that in South Italy, just as in North, Caves used both for habitation and burial. we have as yet given no idea of the civilization which prevailed in such South Italian caves. Fortunately there is no difficulty in finding material for this purpose, for in two places in South-east Italy very complete excavations Civilization of Matera and Molfetta. have been made, namely in the Gravina at Matera and in the Pulo at Molfetta. Here a remarkable civilization has been revealed, presenting many contrasts with that seen in the caves of Upper Italy. This civilization we must now examine.

The town of Matera (Map I, 58) lies in the province Matera. of Potenza, on the edge of a deep ravine called the Gravina. The sides of the ravine are honeycombed with large numbers of caves, many of which are inhabited by shepherds even at the present day.¹ One of the largest of these caves is Grotta dei Pipistrelli. the Grotta dei Pipistrelli. This cave was examined by Dr. Ridola some years ago.² It proved to have been inhabited in the neolithic period. Under a vast mass of later remains, artificial and natural, lay a stratum containing implements of flint, bone and horn, remains of fireplaces, and large masses of animal bones and potsherds. The flints have an early neolithic appearance. They are mostly rectangular knives, sometimes pointed, scrapers and 1. Flints. borers, but the arrowhead is very rare.

¹ See Ridola, *Origini di Matera*.

² For all the information I have given with regard to Matera I am indebted to the kindness of Dr. Ridola himself.

2. Pottery.

a. Incised before firing.

b. Incised after firing.

Far more imposing is the pottery. It is of three types. The first type is precisely similar to that which occurs in the earlier settlement at Molfetta, i.e. the ornament is produced with the point of a stick while the clay is still wet (cf. Pl. II, figs. 4 and 5). The motives repeat those of Molfetta. These vases are occasionally polished inside, seldom outside. The second type of pottery is made of a good though not perfectly fine clay. It is brightly polished on the outside and sometimes even on the inside.

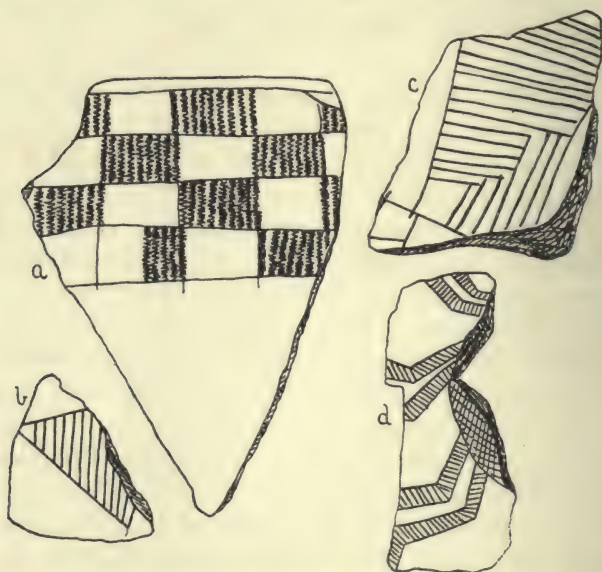


FIG. 30. Fragments of incised ware, Matera. Scale $\frac{2}{3}$.

The colour of the thick slip varies from yellow or red to brown or even dark grey and black. These vases are frequently ornamented with incisions made after the firing, probably with a flint (fig. 30). Unlike the first type of vases, these latter are only partly covered with the ornament, which forms definite designs. Both these types are hand-made.

I am inclined to see two periods in this second ware. In the first the design consisted of simple elements such as the dog-tooth, the chessboard, concentric squares, zig-

zags &c. (fig. 30 *a, c*), while in the second the element of design was the hatched band (fig. 30 *d*). This latter type must be closely allied to the European dolmen pottery, and is later than the other. The change in style was probably due to the arrival of the dolmen pottery in Italy from some external source. The earlier type is no doubt closely related to the neolithic pottery of Stentinello and Crete.

The third type of pottery found in the cave is a kind of painted ware (fig. 31). The clay is fine, ochre or pinky c. Painted ware.

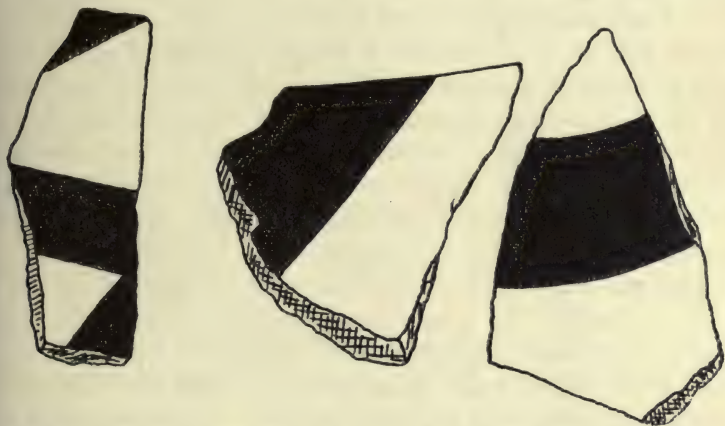


FIG. 31. Fragments of painted ware '*a fasce larghe*', Matera. Scale $\frac{1}{4}$.

yellow in colour, and the ornament consists of broad bands of red-brown or dark-brown paint. This is the type found at Molfetta by Mayer, and called by him *a fasce larghe*. It is impossible to say whether this pottery is native or imported. It has not been found anywhere else, either in Italy or outside. The designs are simple, and consist of arcs of circles or of inverted V's arranged horizontally round the body of the vase. To judge by their regularity these vases might be wheel-made, though I doubt it. The walls are quite thin in some cases, and the fragments often ring almost like Mycenaean ware.

Although we cannot prove that this ware was native, it is beyond all doubt that the inhabitants of Matera were not unacquainted with the art of roughly painting pottery. Native painted ware.

In the cave were found several fragments of bowls which on the outside had a brown slip polished exactly as in Type II, while on the inside was painted in brown on a yellow ground a design very common on incised vases of that type. These vases prove beyond all doubt an attempt to imitate in paint the old incised patterns. Probably the first painted vases were introduced from abroad and the natives attempted to copy them. This is also proved by a fragment of a vase whose outer surface is in the technique of Type II; the inside, however, lacks the thick brown slip usually given and shows the rough surface of the clay; but on it is painted a simple pattern in which the slip material is applied as a paint. There is no evidence to show the chronological relation of these various types of pottery to one another. As, however, the neolithic stratum in which they were found was by no means thick, it is probable that they are approximately contemporary.

Defensive
system of
the cave.

The cave was elaborately defended by natural means; it is approached by a long low passage through which one can scarcely walk upright. This passage ends, not in the cave itself, but in a sort of antechamber from which another low passage leads to the cave proper. The weathering of the rock, however, has now completely exposed both cave and antechamber to the full light of day.

Burial-
cave.

A few metres below the opening of the cave itself is a narrow cleft in the rock. This penetrates several metres into the mountain and ends in a species of pit. It was apparently used as a burial-place by the inhabitants of the cave. Numerous skeletons were found both in the pit, which was walled up with a masonry of rough stones, and in the cleft itself. Vases and implements of flint were found with the bodies. Unfortunately, the place was excavated during the illness of Dr. Ridola by his workmen, who in their eagerness to reach the inevitable 'treasure' bereft the excavation of all scientific value.

Neolithic
civiliza-
tion of
South
Italy.

The pottery from Matera, with its two types of incised ware and the painted ware, is sufficient to differentiate the civilization which there prevailed from that of North Italy.

In fact the civilization of South Italy in the neolithic period is far more akin to that which existed in Crete and the Aegaeon, as we shall see later.

Matera, however, is not the only place where we can study this South Italian civilization, as we may now call it, for it is also represented in the earlier or hut-settlement at the Pulo of Molfetta (Map I, 53). The Pulo of Molfetta.

Il Pulo is a natural depression in the ground lying at a short distance from Molfetta.¹ It is oval in form with a major diameter of 170 metres, the bottom forming a fairly level plain. The sides are rocky and almost perpendicular. In these are eight caves, most of which were inhabited in prehistoric times. They are of natural formation, but in some cases they may have been adapted to habitation by human hands. An examination of the floor deposits of the caves yielded numerous potsherds and objects of stone and bone. The bottom of the Pulo itself was also examined and remains of the same type and date were found, though the earth seemed to have been badly disturbed and no stratification was possible. Il Pulo. The two settlements.

Outside the Pulo and immediately contiguous was found another settlement. The remains found consisted of hut-foundations, graves and industrial products. These were all without exception neolithic, and the excavator distinctly states that the inhabitants of this station were the immediate predecessors of those of the Pulo itself, i. e. of the caves. For convenience we may call this earlier and upper settlement Station I, and the station in the Pulo itself Station II.

The graves in Station I consisted in rectangular enclosures of large stones, probably covered over with flat slabs. Near the bottom of the first tomb was found a child's skull, a vase, and the shell of a tortoise. Two more tombs of the same type were found nearly intact, together with the remains of many more. The orientation seems to have been east and west. Station I. a. Graves.

The upper station (I) yielded remains of huts. These remains consist of masses of burnt clay with the imprint of poles upon them, but the excavations did not discover b. Huts.

¹ Mayer, *Le Stazioni preistoriche di Molfetta*, Bari, 1904.

whether the huts were constructed on the level or half sunk in the ground.

c. Stone
imple-
ments.

The surface of the ground was strewn with flint-knives of the usual rectangular type, but arrowheads are wanting, unless the name can be given to a number of small flakes roughly worked into triangular form. Obsidian was also used for making small knives. Two axes of polished stone also occurred. Rather unusual are several objects (arrowheads, knives &c.) of limestone. Finally must be mentioned a rounded piece of marble and a terracotta spindle-whorl.

d. Bones.

The deposit examined in this station (I) contained masses of shells and bones.

e. Pottery.

Incised
before
firing.

The pottery of this upper station falls into two classes answering to two periods. That of the first period is distinguished by the prevalence of ornament roughly stamped or incised while the clay is still damp. The surface of the vases is grey or coffee colour, and the fracture, of much the same colour, shows small grains of stone mixed with the clay. The inner surface is usually covered with a slip and polished, the outer is left plain to receive the ornament. This is a ware which we have already seen at Matera. Among the more common forms are a pail-shaped vase drawn in at the foot and a spherical vase with a cylindrical neck.

These vases are almost completely covered with ornament, not even the handles being left free. The ornament is very simple and is not arranged in schemes (Pl. II, figs. 4 and 5). Sometimes the nails of the potter sufficed to produce a series of small incisions side by side or converging in couples to form V-shaped ornaments. Sometimes a pointed bone or stick was employed and more complicated incisions made, zigzags, S-shaped curves &c. Very frequent is the *tremolo* or undulating line, produced by some mechanical means and often curved and combined to form a series of curved angles (Pl. II, fig. 4).

Similarity
to Sicilian
neolithic
ware.

This system of ornamentation is very similar to that employed in the pottery of Stentinello and Matrensa, in Sicily, and the two wares undoubtedly fall into the same context. Many of the designs are common to Molfetta

(Station I) and Stentinello, such as the parallel vertical zigzags set close together. Other Molfetta designs, though not found at Stentinello itself, occur on other Sicilian sites, e.g. the caves of La Scorosa and La Seggia. On the whole the Molfetta technique looks less advanced than the Sicilian. Many patterns which in Sicily were produced by an instrument, were at Molfetta laboriously incised by hand, and the schematic arrangement of the design to be seen on the Matrensa vases is quite lacking at Molfetta.

In the second period of this station the ornament almost entirely disappears. More attention is now given to the form of the vase, the thinness of the walls, and the finish of the surface. The vases are polished until they take an almost metallic lustre of a grey or black colour. As in the previous period, the use of the wheel is unknown. The vases are now lighter in build, and the double-bottom characteristic of the earlier period disappears. For ordinary use, however, a rougher kind of pottery was also made, the clay of which is usually reddish. The forms most usual in this period are the globular cup, the basin of inverted-cone form, and the spherical jar with a slight neck. The last is usually pierced with two holes near the rim (cf. fig. 62). A precisely similar shape was found in the Early Minoan *tholos* at Haghia Triadha, in Crete.

Unornamented ware.

This hut-settlement (Station I) is undoubtedly contemporary in part with the Grotta dei Pipistrelli at Matera, for besides containing the same incised ware (incised on the damp clay) it also yields the painted ware *a fasce larghe* (cf. fig. 31).

Date of Station I.

The second station at Molfetta, that of the caves, is clearly later, and seems to me to contain elements of North Italian origin. Stone implements are here less common than in Station I.

a. Stone implements.

They include, however, several flint knives of the usual form, and three flint arrowheads of rather fine work, forming a complete contrast to those of the other station. Two of these are olive-leaf shaped and the third is slightly winged and has a tang. Other stone implements included knives of obsidian, axes of polished stone or of basalt, a rough

club-head of limestone, and three moulds for casting simple metal implements which Mayer believes to have been used in pottery-making. Among the smaller objects were a black spherical bead and two conical spindle-whorls of terracotta.

b. Pottery. The pottery of the Pulo is without incised decoration, except for a few sherds to be noticed later. The clay is rough and the fragments are easily broken in the fingers. There is no slip, and the grey and black polished surface is marked with cracks. This last circumstance, added to the fact that the marks of the polisher are always to be discerned, and that the black surface is apt in parts to fire to a bright red, serves to distinguish this ware from the ware of the second period of Station I. The ornament usually consists of indentations around the rim, which is provided with a slight lip for the purpose, or in bands of clay set horizontally and vertically round the body of the vase, and pitted at close intervals with the finger-tip. This is a type of decoration which is not native to South Italy, but which is common on neolithic sites in the north, especially in the hut-foundations of Emilia. The shapes of the vases from the Pulo are stated by the excavator to bear great resemblance to those of the vases from the so-called Siculan graves on the Murgia Timone near Matera, but it should not be forgotten that the characteristic ornament of these latter, i.e. the incised bands filled with points, is quite lacking at the Pulo. Among the handles, which show a long and steady development, must be noticed those which consist of a broad tongue of clay rising from the rim of the vase. In the Pulo these occur in every form, beginning with a nearly vertical unpierced band of clay, afterwards becoming bent back, raised at the edges, and pierced with a hole. This is the handle which is so typical of the so-called Siculan sites in South Italy, occurring at Matera, though not in the cave, and in the Grotta di Pertosa.

Two types of pottery have still to be noted. The first is distinguishable only by means of its ornament. The fragments, which are found in both stations, are incised after baking with a flint or other sharp instrument. The

Relief-strip
ornament.

Handles.

Incised
ware.

designs are badly executed, and the excavator suggests that they were the work of the people of the second station, who, picking up old vases or sherds both in the Pulo and in the other station, used them to practise upon. This may indeed be true. In any case, there is no doubt as to what models were followed. The designs, consisting mainly of cross-hatched triangles and bands and festoons singly-hatched, are typical of what is usually called the dolmen type of pottery in Italy, as seen at Moarda and in Sardinia. There can be no doubt that this kind of pottery, even if it never took a strong hold at Molfetta, at least made its appearance there and was sufficiently liked to be imitated.

The second type consists of painted pottery. Those who desire a full account of this must seek it in Mayer's account of the excavations. A few general points alone can be noted here (Pl. II, figs. 1-3). The majority of this pottery is of fabrics the original homes of which are still unknown. Many similar vases have been found at Matera, but nowhere else. The total number of fragments was about 120, a proportion coming from both the stations. A few pieces are described as belonging to the mature Mycenaean style. The figures given are not convincing, nor was I able to find any Mycenaean sherds in the collection at Bari. In any case, on the assumption, which seems justified, that the Pulo was not inhabited in the full bronze age, the presence of Mycenaean fragments is chronologically impossible.

Painted
ware.

Some of the fragments, as I have tried to show elsewhere, are very closely akin to the neolithic pottery found by Professor Soteriades at Chaeronea and Elatea, in North Greece.¹ Other fragments again show more affinity with the Thessalian wares of Sesklo and Dimini (e.g. Pl. II, fig. 3). In the present state of our knowledge it is impossible to say anything definite, but we may hazard the conjecture that the bulk of this pottery came into Italy across the Adriatic. There are also, according to Mayer, painted fragments made with local clay, imitations in fact of foreign wares. This is one of the reasons which led him to suppose that a colony of foreigners lived in close proximity to the

¹ *B. S. A.*, xiii, p. 405.

Pulo. This must not, however, be taken as proved. Some of the fragments belong to the type of fine painted ware found on Serra d'Alto at Matera (cf. fig. 36).

Date of
the two
settle-
ments.

With regard to the Pulo in general, it may be said that the earlier settlement, that on the plain above, is truly and entirely neolithic. The second settlement, that of the caves, probably lasted into the early bronze age, but may have begun in the neolithic. It is certain that some of the painted sherds from this latter station are of the same fabric as those from Serra d'Alto at Matera. A few fragments of this ware also occur at Matera in hut-foundations which appear to be neolithic. Thus in Station I, and perhaps in the earlier stages of Station II, at the Pulo we have a civilization similar to that seen at Matera; but the pottery of Station II adorned with strips of clay in relief seems to me to be a northern intrusion to which we have no parallel at Matera.

Caves
used for
burial and
for habi-
tation.

Our survey of the neolithic cave-dwellings is now complete. We have seen that in all parts of Italy caves were used both for burial and for habitation. The civilization represented in these caves is in a broad sense one and the same, though there are considerable local differences. The stations that diverge most from the rest are those of Molfetta and Matera, which show signs of trade with the Lower Balkans and also strong affinities with the Aegæan.

Settle-
ments in
the open
air.

A few other points must be added in conclusion. Although numerous remains of the neolithic period have been found in caverns, we must not assume that these were inhabited all the year round and under all conditions. It is far more probable that the neolithic people lived, whenever the conditions were suitable, in the open air, close to the caves, to which they betook themselves whenever the weather became severe. We can well understand that this outdoor life was almost a physical necessity. Within the cave were allowed to accumulate all the remains of the food eaten, and the condition of the atmosphere must have been appalling, not to speak of the torment of the flies attracted by putrefying animal remains. It has always been a subject

for wonder that a people who in some respects were moderately advanced should have had so little knowledge of the most elementary hygienic principles. It is true that much the same state of things prevailed in the hut-foundations and in the *terremare*, but here the obvious remedies were apparently adopted—the hut was moved or the *terramara* was burnt down and another built. Yet we have no evidence of anything in the nature of a periodical cleansing of the caves; indeed the thickness of the deposits proves that in some cases at least such a thing was never thought of. Perhaps the fires lighted in the cave served this purpose among others.

The inhabitants of the caves were in neolithic times not an agricultural people. No remains of cultivated plants have been found in the caves themselves. It is probable that these people used the products of wild plants—the acorn, for example—to make various foods, for the large rounded pebbles and flat stones found together in the caves must have been used for grinding.

The cave-dwellers were a pastoral people, and they were also hunters. They pursued the stag, the bear, the fox, the wolf and the wild boar, and they domesticated the ox, the sheep, the goat, the horse and the ass. They ate the flesh of their prey, they split the bones to extract the marrow, they used the skins to clothe themselves and the bones to make implements. In the snaring of birds too they were apparently skilled, and it is probable that they brought them down with the sling-stones which are so often found. Those of the cave-dwellers who lived near the sea also fed upon fish, and especially upon the numerous species of edible shell-fish which abound on the Italian coasts.

CHAPTER III

NEOLITHIC HUT-FOUNDATIONS

The hut-dwellers.

NEOLITHIC man in Italy did not, however, always make his dwelling in caves. No doubt these were used when they lay to hand. But the great novelty which the race of the neolithic period brought with them into the peninsula was the custom of living in huts constructed in the open. No doubt the cave-dwellers often spent much of their time in the open, taking to their cave-homes only in cold weather and in case of danger. We have noticed at least one example of this in connexion with the caves of Liguria. But it is with true hut-dwellers that we have now to deal, people who, night or day, winter or summer, spent their time in huts, apparently without having recourse to caves even in case of bad weather or of danger.

Date.

In the first place, it must be noticed that the hut-dwellers are among the earliest neolithic people whom we find in Italy, that is to say, the change from caves to huts took place not during the neolithic period but at or before its beginning. No doubt many of this new race preferred caves to huts; indeed it is natural that when caves were to be found they should be used. Thus the caves of Liguria and the Apuan Alps were being inhabited at a time when in Emilia and elsewhere men were already dwelling in huts, and moreover, as we shall see, the two types of dwelling were both used by one and the same race. What we have to guard against is the error of supposing that the material of the neolithic caves is older than that of the huts. Both groups are of the same period, and in all probability due to the same race.

Huts may be of various periods.

In the second place, it is necessary to correct an error which has often caused misunderstanding. The custom of hut-dwelling, introduced into Italy by the new neolithic

people, continued in vogue throughout the bronze age and lasted into the iron age. There are therefore huts of all periods, and it is often difficult to determine the exact age to which a hut belongs. This uncertainty has led to endless differences of opinion. This can most easily be seen by comparing the list of hut-villages attributed by Brizio in his *Epoca Preistorica*¹ to the neolithic period and to the period of transition to the bronze age, with the list given by Colini in his work on the bronze period.² Hut-villages which to Brizio seemed to belong to the neolithic or the transition period are assigned by Colini, with almost practical certainty, to the full age of bronze.

Having premised so much, we can advance to consider those of the huts which may with certainty be dated as neolithic. Such huts exist in the territory of Reggio-Emilia, around the Lago di Lesina in the Capitanata, at Fano and Iesi in the Marche, and possibly in the Valley of the Vibrata in the Abruzzi. Other hut-villages besides these were founded in neolithic times, but we cannot in all cases date with certainty. For purposes of study the most satisfactory of those mentioned are the hut-villages of Reggio-Emilia, it being beyond all doubt that they represent the first appearance of the new neolithic folk in Italy. Those of the Valley of the Vibrata and of the Lago di Lesina are less satisfactory, because they show palaeolithic characteristics and are by some believed to have been built by the remnant of the old palaeolithic folk who survived and came under the influence of the new-comers.

The huts themselves are invariably hollowed in the ground to a depth of from half a metre to a metre. Thus what is actually found by the excavator is a hole filled with refuse and indistinguishable from the surrounding soil except by the colour of its contents. These holes are called *fondi di capanne* or 'foundations of huts'. They are usually circular or elliptical, varying in diameter from 2 to 7 or 8 metres. Often the original hole was deepest at the centre, and the walls sloped up, but in some cases the walls are perpendicular and the hole is cylindrical. Occasionally

Neolithic
huts.

Structure
of the
huts.

¹ pp. xxix-xliii.

² *Atti Congr. Int. Roma*, 1903, p. 26.

a hut consisted of two of these holes side by side, forming a figure 8, and in some later examples a large hole is encircled by several smaller ones, each connected with it by passages.

But this simple hole hollowed in the earth did not constitute the hut. It merely formed a foundation, and in part a substitute for the superstructure. This was a hut of wicker- or branch-work, covered with sun-dried clay and perhaps with skins. The roof was, at least in some cases, supported by strong vertical piles driven in outside the circumference of the hole or *fondo*. The sockets of such piles are often still visible. A clear idea of the form which the hut had assumed at the beginning of the iron age may be gained from any of the so-called hut-urns of Latium or Tuscany. The protruding beams at the top of the elliptico-conical roof give some notion of the construction.

Hut-villages.

Finally, be it noticed that these huts are never found isolated, but always in groups forming true villages, often of considerable extent. No neolithic village has yet been proved to have been surrounded by a wall of any sort, but we shall see in dealing with the bronze age that a defence work of some sort was in rare cases erected in a later period.

North Italy. The Reggian hut-villages.

Let us, then, take the hut-villages of Reggio-Emilia as being perhaps the most important of the class, and examine them more closely. Five groups are known, situated near Calerno, Albinea, Rivalentella, Castelnuovo di Sotto and Campeggine respectively. As early as 1877 Chierici had carried out excavations in all these groups. We cannot here give an account of all his excavations. It will be sufficient to examine those carried out at Calerno and Campeggine, and to discuss the results of the explorations as a whole.

1. Calerno.

The hut-village of Calerno (Reggio-Emilia) lies 4 kilometres from the right bank of the Enza and 2 kilometres north of the Via Emilia¹ (Map I, 18). In cutting a channel for irrigation purposes three hut-foundations were found.

a. The huts.

These consisted in roughly circular patches of darkened

¹ B. P., i, p. 105.

earth, one of which measured about $1\frac{1}{2}$ metres in diameter. On the removal of this dark earth there remained a hole, almost cylindrical, though narrowing slightly towards the bottom. The depth of the hole was 1.20 metres from the floor-level of the hut. Among the earth taken out were b. Contents. flints, potsherds, bones, lumps of sandstone, and shapeless masses of burnt clay. These latter suggest that the hearth, which stood in this hole in the centre of the hut, was made of clay. The flints numbered sixty-three, of which twenty- c. Flints. three were knives, two were rhomboids, one a borer, thirty-two rejected flakes, two cores, and one a lump of flint perhaps used for flaking. Two of the knives were rounded at the head by means of minute flaking, and were no doubt used as scrapers (cf. fig. 48). There is no sign of spear- or arrowheads. Chierici notes that among the smaller knives some had a notch near the ends or in the centre, as if used for suspension as ornaments.

The pottery included rough and fine specimens, all hand- d. Pottery. made, some merely dried, others well baked at an open fire. The colours are various, and include black, yellow, red and grey. The surface is not polished with a polishing instrument, but smoothed, no doubt with the pumice stone found in other hut-foundations, and it sometimes has a fine yellow slip. The fractures show no grains of mica or quartz mixed with the clay, but fragments of an opaque white material. The foot is often formed by merely compressing the walls, and the handles are all vertically set, some having a small protuberance above. Chierici describes a basin with hemispherical body and a rim gently curving in. On the neck is a double row of small oval impressions so arranged that they give the idea of a branch. The ornament occurs in other hut-foundations of the same group. Above the keel are pairs of incised concentric semicircles, and below it pairs of obliquely set parallel lines also incised. We also find strips of clay laid on the vase in relief and then cut transversely at regular intervals.

The animal bones discovered included those of the ox, e. Animal bones. stag, goat, and beaver. The bones were all broken open by means of cutting and blunt-edged instruments.

2. Cam-
peggine.

The hut-foundations found at Campeggine¹ (Map I, 21) are very similar to those of Calerno.

a. The huts.

The spot in which they lie is near the village of La Razza, 2 kilometres from the Via Emilia and not far from the *terramara* of Campeggine. The hut-foundations were as usual marked by patches of dark earth, seen after removing about 40 cm. of surface soil. The actual foundations are usually circular or oval, with the greatest diameter pointing south. Their breadth varies from 1 to 4 metres.

b. Shape.

One hut, however, is shaped like an 8 and consists of two circular halves, the join of whose centres points north and south. An opening 1·70 metres wide leads from one hut into the other. Another hut consists of five or six circular divisions arranged, according to Chierici, in the shape of a rose with unequal petals. The two largest of the divisions (each of diameter 4 metres) form a figure 8 with centre line running north and south. Round that which lies to the south are grouped three or four smaller huts. The openings by which the huts communicate with one another are $2\frac{1}{2}$ to 3 metres wide.

In all the huts at Campeggine the sides of the holes are nearly vertical, and Chierici notes that neither here nor elsewhere had he seen signs of steps by which to enter the circle.

c. The
founda-
tions.

The holes, which are usually concave at the bottom, are about 90 cm. in depth from the original ground-level. In one hut, 2·30 metres in diameter, the depth is only 75 cm., but in the centre is another smaller hole, circular in shape, concave at the bottom, and of diameter 1·10 metres. In another hut, on the side opposite to the entrance, the level was raised 40 cm. so as to form a kind of step or low bench; in this step were three cylindrical holes full of black earth. These Chierici thinks are the sockets for stakes supporting the hut. One of them had a diameter of 18 cm. and was sunk 28 cm. into the virgin soil. In the same hut, 'between the step and the entrance on the west side,' lay some shapeless masses of burnt clay mixed with charcoal, cinders and burnt bones, flints and potsherds. These point

¹ B. P., iii, p. 1.

no doubt to a fireplace. Chierici, however, judging from their shapelessness, decided that they were not in their original position, but had fallen 'from above'.¹ Similar masses of burnt clay were found in the north part of the largest of a group of four huts at Albinea.

The material found consisted as usual of split bones, pebbles and rough pieces of sandstone, flint implements and potsherds. Besides these there were also found in the largest hut an axe of polished stone and a fragment of another, a piercer and two needles of bone, and a *pintadera* of terracotta. The pottery was mostly of purified clay burnt to a fine red, 'with traces also of a coloured slip and of real painting.'² The remainder is of a dark clay showing in fracture grains of white material.

There was no sign of metal, of spindle-whorls, or the potter's wheel, of the crescent-shaped handle on vases (*ansa lunata*, p. 509), or of lance- or arrowheads.

The flints included knives, knife-saws, knives retouched at the head to form scrapers, short knives retouched at both ends, rhomboids, piercers, small knife-blades notched to be hung as pendants, flakes and nuclei.

We may now notice some general points raised by Chierici's excavations as a whole.

The small dimensions of some of the holes in the Reggian villages are rather remarkable. One of those at Calerno, for example, measures only 1½ metres in diameter. This has led to the suggestion that some of them were dug to receive refuse from the huts. Against this, however, is the fact that the larger holes contain precisely the same deposit as the smaller. In fact neolithic man in huts had no more advanced ideas of comfort and sanitation than his brother in caves. Nor can it be held that the hole was made in the centre of the hut and did not occupy the whole floor-area, for the edge of the deposit is always clearly defined and

¹ It is only fair to the reader to state that Chierici's account—perhaps because he was unable to complete the excavation—is in places far from clear, as will be apparent to any one who cares to refer to the original, *B. P.*, iii, pp. 1 sqq.
² I have been unable to trace these fragments, nor have I seen any further reference to this important discovery.

does not extend beyond the circumference of the hole. After all, it is possible enough to suppose that the larger huts were used as living-rooms—and it is precisely in the largest that hearths have been found—while the smaller were used for sleeping in or for keeping stores, weapons &c.

2. Structure.

As to the method of constructing the hut itself we have little evidence. Chierici thought that at Albinea he was able in clearing out the earth to distinguish the different strata due to the disintegration of the various parts of the superstructure. The fact that the earth does not contain clay forbids us to believe that the walls, of wicker-work no doubt, were lined with clay, and a covering of skins is therefore probable. In the later hut-foundations of Donegallo, however, there are numerous masses of clay which must have fallen from the superstructure.² It will be remembered that at Campeggine Chierici found signs of the piles which supported the structure. That the inhabitants were agricultural he held to be proved by the finding of hand-mills consisting of flat slabs of sandstone on which grain was ground with large rounded stones; but see p. 87. Such mills were found at Rivalentella. The animal bones prove that these people were pastoral, domesticating the ox and goat, and that they hunted the stag and the beaver.

3. Stone implements.

Their stone weapons were not very varied. They possessed but few examples of the polished axe of serpentine and chloromelanite, while the true arrowhead was unknown to them. The long flint flake served most of their needs. They worked it to a point to form a piercer (fig. 50), they chipped its edges to form a saw (fig. 52), or they rounded its ends to form a scraper (fig. 48). Equally common was the rhomboid flint, which may well be considered as the most typical and special characteristic of the group (fig. 51 *d*). Scarcely less typical are long flakes with notches worked in the sides, usually near the end. Chierici has demonstrated that in some cases, when the notch is on one side only, this form represents a process in the manufacture of a rhomboid.³ In other cases, when the notch occurs in both

¹ This, however, does not explain their contents.

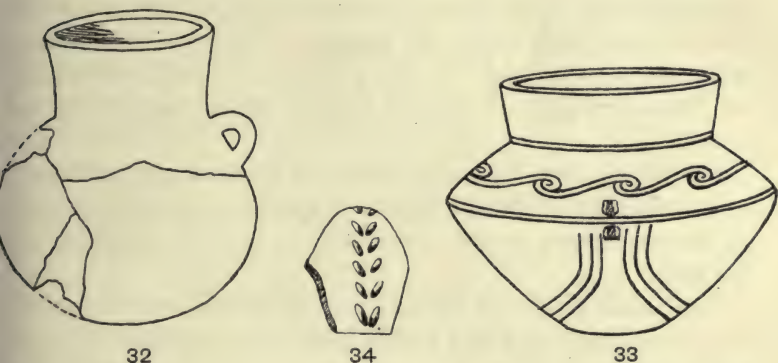
² *B. P.*, xx, p. 146.

³ *B. P.*, i, p. 2.

sides, he suggests that the flints were hung round the neck as ornaments. In some instances, however, the notch takes the form of a small arc of a circle. In these cases it seems highly probable that the notch was used to work and smooth off round implements of bone or wood.

The pottery forms a series particularly interesting as being the earliest which occurs in Italy. It proves that the neolithic people arrived in Italy with a civilization which had already passed through its primitive stages and had reached a comparatively high level. The use of the wheel, indeed, is unknown, and the firing is imperfect, the shapes—

4. The
Pottery.



32

34

33

FIG. 32. Vase from neolithic hut-foundations, Reggio. Scale $\frac{1}{2}$. (*Bull. Pal.*)

FIG. 33. Vase from neolithic hut-foundations, Reggio. Scale $\frac{1}{8}$. (*Bull. Pal.*)

FIG. 34. Vase-fragment with impressed leaf-ornament; neolithic hut-foundations, Reggio. Scale $\frac{1}{2}$. (*Bull. Pal.*)

so far as they are ascertainable—are simple (fig. 32), and the vase-foot is undeveloped. But already there is considerable variation in the type of the handle. It is horizontal or vertical, it is of the ribbon or cord type, it is large enough to pass the fingers through, or it is too small except to take a string. It has a small protuberance at its highest point, as at Castelnuovo and Calerno, a form which occurs also in the cavern of Monte Bradone, in Volterra, and in the pile-dwelling of Polada (cf. Pl. III, fig. 7), and is not uncommon in the iron age. Or it rises in a cylindrical column (*cilindro-retta*) high enough for the hand to grasp, as at Albinea (cf. Pl. VI, fig. 5). I have been unable to

Orna-
ment of
pottery.

find on the sherds any trace of the marks of water-rolling which Brizio uses to prove that the huts of Reggio were abandoned owing to floods, and that their inhabitants then adopted lake-dwellings and *terremare*.¹ The ornament of the vases includes the three distinct methods of incision, impression, and relief. The incisions usually consist of straight lines arranged in simple patterns, or of concentric semicircles. One vase, however, is incised on the shoulders with a pattern which looks like an attempt at running spirals (fig. 33). The dog-tooth ornament is not lacking. Impressed ornament is limited to the small leaf-shaped depressions on the sherds of Calerno, Rivaltella and elsewhere (fig. 34). The complicated impressed work of South Italy and Sicily is absent. Relief-work consists of strips of clay laid on the vase horizontally, vertically or transversely. These are usually plain, rarely cut or notched.

Finally, it must be noted that two kinds of clay are used, one purified, the other rough and mixed with small grains of quartz, felspar or other material to prevent cracking in the firing.

Main
results.

The main result of Chierici's excavations was to prove that in the neolithic age North Italy was inhabited by men who made their dwelling not always in caves but sometimes in huts. One of the great centres of these hut-dwellers lay in the province of Reggio-Emilia.

Huts on
the sur-
face of the
ground.

Alba,
Cuneo.

a. The
hearths.

The great characteristic of these Reggian villages was that the huts were half sunk in the earth. But since the days of Chierici's excavations a neolithic village, no less important than those of Reggio for the material it contained, has been found, in which the huts were apparently not sunk in the ground at all. This village was discovered in Piedmont at Alba (Map I, 2), province of Cuneo. In a bed of clay mixed with peat were found remains of hearths surrounded by masses of charcoal and animal bones.² The hearths consisted of small heaps of quartz or blocks of micaceous schist showing traces of fire. In a stratum of clay overlying

¹ *Ep. Preist.*, p. xliii.

² *B. P.*, xix, p. 162.

these was found a human skeleton, but there is no doubt that it belongs to a later period.

The stone and terracotta remains were very numerous.

Axes and adzes are made either of green stone, such as chloromelanite, jadeite and nephrite, or of commoner material such as schist. Their shapes are most variable. Some of the smaller examples are almost triangular, but the more usual form is trapezoid with the edges rounded off. A noteworthy feature in both large and small examples is the thinness of the implements from back to front. In some cases the cutting-edge is rounded. Polishing is usually confined to the cutting end of the weapon, the upper end being merely smooth, though sometimes the whole surface is beautifully polished. A few examples are so narrow as to deserve the name of chisels (cf. fig. 58). These vary between roughly 7 and 17 cm. in length, and are well polished. Of club-heads pierced with a hole there is no sign.

b. Axes of Stone.

Of flint were found knives, flaked straight off the core, showing in some cases the weathered surface of the original flint nodule. These are between 7 and 9 cm. in length. Some more finished examples are of triangular, trapezoid or polygonal section, flat on one side and often tapering at one end. The arrowheads are unworked on one side, while on the other they are sparingly chipped. Most show signs of a tang, and are of great interest as showing the perfect neolithic form in its earlier stages. A complete example worked on both sides was found, presumably among the other objects, but it shows a degree of workmanship unique in this settlement. One example of the rhomboid occurs. There are examples of the usual scrapers and borers. Flint cores were numerous.

c. Flint.

Among the other products of stone were fragments of bracelets very carefully polished. A rather large stone ring with a smaller hole in the centre may have been one of the well-known disc-shaped club-heads (cf. Pl. II, fig. 14). Spherical pebbles of from 3 to 5 cm. in diameter looked like sling-stones. Larger pebbles were no doubt used for grinding. Two of these are of flattened-spherical shape, and another is rectangular; all three are of fine dark stone well

d. Other objects of stone.

polished. Lastly must be noticed a flat rectangular piece of polished sandstone with a hole at each end; it measures 7.50 cm. by 1.90 cm. and is perhaps a *brassard*, serving as a protection for the wrist against the impact of the bow-string (cf. fig. 161).

Pottery. The pottery is all made of a rough grey-black clay full of particles of quartz and other foreign matter. The surface is usually burnt red, but occasionally it is grey or yellowish. There is no sign of polishing. The shapes are difficult to ascertain. Some have a flat base and straight

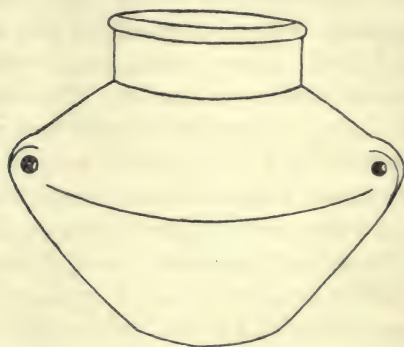


FIG. 35. Neolithic vase from Alba Cuneo. Scale $\frac{1}{2}$.

convex or concave sides. One is of an inverted cone shape standing on a slight conical foot. A whole vase which has been preserved consists of a flattened sphere with a pronounced keel, short cylindrical neck and rim rounded off outwards (fig. 35).

f. Its handles.

The handles are usually broad rings attached vertically. Less common are horizontal tubes to serve as string- or stick-holes. In addition to this we have a beautiful series beginning with a small tongue or knob to rest the finger under. Next this has a small string-hole bored in it, but is still a mere tongue in essence. The tongue now enlarges, and we have a handle, horizontal, leaning slightly upwards, but still showing its origin, and not yet attaining to the true handle of cylindrical section. On one vase we have three such handles, small, and placed side by side.

The ornament consists often of slight ridges of clay ^{g. Its ornament.} running roughly horizontally round the vase. These are, while damp, either pitted by a blunt stick or by the finger-end all round, or else slashed vertically or slantwise with a sharp instrument. In nearly every case the vertical slashes end on each side of the ridge in a little round hole, and the whole ornament irresistibly suggests that it meant to indicate the seams of a leather vessel. The slashes on the ridge, which are very superficial, would represent the thread; and the holes at the end would be those pierced by the awl or perhaps the needle.

Another ornament was made by taking a fairly sharp pointed stick and with a side movement raising a slight knob of clay, making a corresponding depression in the surface beside it. The finger-nail sometimes served for this purpose.

Finally, a few vases are ornamented with incisions; these are usually sharp and superficial and consist of lines, parallel, or forming a lattice or elementary dog-tooth pattern. Rarely the incisions are deeper and scored with a blunter point. One vase has a thickened rim marked outside with a series of close vertical notches.

To the list of terracotta objects must be added two spindle-whorls, one biconical, with the cones base to base, the other cylindrical and flat.

It is impossible to determine now the exact nature of ^{Probable nature of the village.} this village at Alba. Beyond the statement that there were separate hearths the excavator gives us no clue. But it is probable that each hearth stood in the centre of a wicker hut built wholly above ground.

Thus we cannot assert that the half-subterranean hut was invariable in North Italy.

What Chierici had done for North Italy Rosa, about the South same time, did for South. That is to say, he proved that ^{Italy. Rosa's work.} in the early neolithic period man inhabited huts half sunk in the earth. Just as Chierici found a fruitful district for his researches in Reggio, so Rosa found a rich field in the ^{The Vibrata Valley.} Vibrata Valley on the Adriatic coast (Map I, 36). Indeed, Valley.

no spot in Italy is richer in remains of the prehistoric periods than this valley. It contains numerous relics of the palaeolithic period, as we have already seen; its hut-foundations belong to every period from the early neolithic down to the iron age, while two at least of its caverns were inhabited during the eneolithic or early bronze age. It was first explored by Rosa in the early seventies, and the results were published, but without sufficient illustration.¹ At present a much fuller and better treatment of the material by Colini is in progress,² and when this is complete we shall, no doubt, be able to assign the various remains to their proper period.

At present we are concerned with those remains which belong to the neolithic age. These consist of hut-foundations and workshops (*officine*) for making flint implements.

Rosa reports in all 336 hut-foundations of the neolithic period. These seldom lie separately but are for the most part united in fifteen settlements or villages. The appearance of the hut-foundations is as follows. After removing a stratum of surface soil a dark circular patch is seen. This patch is the surface of a deposit of dark earth containing charcoal, potsherds, bones, flints &c., representing the rubbish allowed to accumulate in the hut. On removing this earth, the original shape of the hut-foundation is seen. It is conchoidal or cylindrical according as its walls are slanting or vertical. The depth varies from 0.60 metre to 1.66 metres and the diameter from 2 metres to 4. In some cases a short flight of steps cut in the earth leads down into the hut. The covering of the hut must have consisted of a structure of branches or wicker-work, supported on strong piles and covered with clay, for remains of the piles and of the clay occur among the refuse. In the centre of the hut lay the fireplace, consisting of blocks of sandstone marked by the heat. In one case two huts were found close together, connected by a passage partly subterranean.

The majority of these huts belong to the later phase of

¹ *Archivio per l'Antropologia e la Etnologia*; vol. i, pp. 378, 457; vol. ii, pp. 117, 219 &c.; vol. iii, p. 336; vol. iv, p. 190.

² *B. P.*, xxxiii, pp. 100 sqq., pp. 193 sqq.

the neolithic period, though some are much earlier. Some of the earliest yielded objects very similar to those of the oldest huts of Reggio-Emilia and elsewhere, while the later examples contained arrowheads and daggers of flint minutely flaked, which were unknown in the Reggian huts.

In huts of various periods occurred objects which show that the palaeolithic type of stone industry did not entirely die out in the Vibrata Valley.¹ Such objects are, for example, the celts of flaked flint (cf. Pl. I, fig. 4) and the scrapers and points of *Moustérien* type (cf. figs. 13-17, and Pl. I, fig. 1), objects which have no parallel whatever in the Reggian huts.

c. Palaeolithic survivals.

The inhabitants were not only a hunting but also a pastoral people, who domesticated the sheep, goat, ox, pig and horse, the last of which was unknown in Reggio-Emilia.

Rosa, in his earliest reports on the excavations, also spoke of a number of remains which he called *officine* or work-shops. These consisted of large numbers of flints in various stages of manufacture lying practically at the surface of the earth. It was then supposed that these flints marked spots specially set apart for the manufacture of flint implements. Further excavations, however, did not entirely support this hypothesis. It was found that these *officine* also contained remains of daily life, potsherds, bones &c., in fact, that there was little difference between the deposit found in them and that found in the huts. Colini, in fact, now proposes to take these so-called *officine* as the remains of huts built on the level soil, without the more usual subterranean foundation. Similar *officine* were found by Chierici among the huts of Reggio-Emilia, and seemed from their contents to be more recent, so that it was suggested that to the habit of living in half-subterranean huts succeeded that of living in huts built on the surface. Such an explanation will not suffice for the Vibrata examples, as the *officine* contain material of all phases of the neolithic period. We must, therefore, on Colini's hypothesis, admit that both

d. Work-shops.

¹ It should be remembered that in the Vibrata Valley we have no implements known with certainty to be of palaeolithic date, though palaeolithic forms occur on the surface.

types of hut were in use contemporaneously, a supposition which is by no means improbable.

e. Flint
objects.

The material gathered from the huts and *officine* is characteristic of all periods of the neolithic age. The survival of palaeolithic methods is seen in the axes and adzes of flaked flint, oval or triangular in form, sometimes so narrow as to be mere chisels. These seem to point to a continuation of the *Chelléen* industry, which is perhaps also to be detected in some of the larger spearheads. The *Moustérien* industry is represented by the oval or trapezoidal scrapers.¹ To the early neolithic industry belong the rhomboid and other 'geometric' flints,—the trapezoid form (fig. 94) is very common—bones, long knives, scrapers single or double-ended. To the middle and later part of the period we may assign ovoid, spherical and disc-shaped club-heads, the wedge-shaped axe with a hole for the handle, the wedge-shaped axe with a furrow for attaching the handle by cords, and the true hammer with a hole in the centre. The axes, adzes and chisels of polished stone may belong to any part of the neolithic period. To the later phase must be attributed a series of arrow and lanceheads, or daggers of very varied forms, and perhaps the flint fish-hooks. A number of obsidian knives should be specially noted, as the raw material must have been imported. Small discs of limestone bored through the centre may have served as pendants. The objects of bone included polishers and borers of the usual types.

f. Pottery.

The pottery was, as is usual in neolithic stations, of two types, a coarse and a fine. The coarser vases are of clay mixed with grains of sand or quartz, are well fired, and have rather thick walls. The surface is smoothed over with a flat stick or piece of bone, but not polished. The chief forms are the truncated-inverted-cone, the hemispherical or ovoid cup or basin, and the large jar with lip curved out. The handles include the tubular type (*a canaletto*) the broad vertically-set ring shape, in which the edges are sometimes raised, and the axe-shaped type (*ad ascia*) (cf. fig. 195). The ornament consists of conical knobs, of

¹ On these palaeolithic survivals, see pp. 177 to 184.

ridges raised on the surface of the vase, or of impressions made by the finger or with a stick.

Some of the vases which apparently belong to this class are on examination seen to be of finer clay. Among these are two important shapes, a basin standing on a conical foot and a flattened-spherical vase with cylindrical neck, the so-called *bottiglia* (cf. fig. 32).

The finest vases of all are covered with a black slip and well polished. The surface occasionally turns red or brown during the firing.

Thus at quite an early date in the history of Italian archaeological research it had been shown, thanks to Chierici and Rosa, that both in North and South Central Italy neolithic man lived in huts, sometimes half sunk in the earth.

Later research has added to these results and we may now assert the existence of such hut-villages all along the Adriatic slope of Italy from above Ancona to below Bari.

The most northerly of this line of settlements is that of Fano¹ (Map I, 33) near Pesaro. Signor G. Castellani reported in 1877 the finding of some sixty arrow- and lance-heads, cores and flakes of flint, and polished axes of green stone. Two years later he found fragments of rhomboid flints in a settlement half-way up a hill facing the sea. This spot yielded no arrowheads, but gave knives and borers of flint with fine flaking. On a higher part of the same hill were found other flints, including arrowheads. The absence of the arrowhead indicates that some at least of the huts of Fano are of early neolithic date.

The material at Bologna includes a large number of chippings and fragments of the usual rectangular flint knives, together with sherds of pottery, some of which are ornamented with a line of indentations made by the finger.

The next station lies not far to the south of this at Jesi² (Map I, 35), near Ancona, where, on a farm about a mile from the railway line, was found a small village of hut-foundations.² None of them were more than a metre in

¹ B. P., iii, p. 128; v, p. 96.

² *Not. Scav.*, 1893, p. 191.

depth and all had been disturbed by agricultural work. It was, however, ascertained that the cavities were conchoid in form and of circular plan on the surface. They lay about 4 metres apart and were arranged in two rows. Each hole contained the usual mass of dark earth, with, in the centre, a thick reddened stratum baked hard by fire. The dark earth contained sherds of vases hand-made and cooked at an open fire, shapeless flakes of flint and bones of the ox and pig. The vases were in the main rough in form and texture, but a few sherds were of a fine polished ware.

3. Lago di Lesina.

Moving further down the Adriatic slope we next come to the villages of the Vibrata Valley, and after these to those on the edge of the Lago di Lesina. The shores of this lake (Map I, 49) were examined by Nicolucci many years ago.¹ At two places at least, namely Camerata, on the south of the lake, and Fischino on the west, remains of

a. The huts.

hut-villages were found. In the former place the huts had been arranged in rows and their place is now marked by conchoidal cavities in the soil, about $2\frac{1}{2}$ to 3 metres in diameter and 60 cm. deep in the centre. These cavities were filled with a thick black earth containing charcoal, a few animal bones, potsherds and flints. At Fischino the same orderly arrangement of the huts was apparently not

b. Flints.

followed. The stone implements were almost invariably of flint. They included flaked axes of the palaeolithic type found in the Vibrata Valley, borers, saws, knives, rhomboids, discs worked on one side only and scrapers of the *Moustérien* type, besides spherical masses of flint used for pounding and as sling-stones. Only one fragment of a polished axe was found. One hut contained a few small knives of obsidian, and also the only bone implement discovered, a polisher. Lanceheads and arrowheads did not occur in the huts themselves, but only in the numerous workshops (*officine*) which lay close by. The arrowheads were worked sometimes on one face, sometimes on both, and were usually oval, almond-shaped or triangular. A single example was of the type with one wing only.

c. Pottery.

The pottery, which was very much broken up, was

¹ Nicolucci, *Ricerche preistoriche nei dintorni del Lago di Lesina*.

exceedingly rough and heavy. The clay was very porous and was mixed with grains of quartzitic gravel. The baking was imperfect and the surface, which was never polished, was generally black, occasionally with patches of red.

The palaeolithic appearance of the flints led Nicolucci to d. Date. attribute the settlement to the palaeolithic period. Now, however, we may confidently assign the huts to the neolithic age. This is proved by the presence of pottery, and indeed by the existence of the huts themselves. Moreover, the absence of the arrowhead in the huts makes it probable that they belong to the earlier part of the neolithic period. The workshops may be later than the huts.¹

Our next station, Macchia di Mare, is not far from Lake 4. Macchia di Mare. Lesina. On the northern slope of the promontory of the Gargano (Map I, 52), on the road from Peschici to Rodi, a neolithic site was discovered by Benucci.² From his account it seems that no signs of the huts were found, but that under the surface soil a thick stratum of dark earth occurred. This contained fragments of charcoal and bone, together with numerous implements of flint. The latter included celts, borers, knives, lanceheads, arrowheads mostly leaf-shaped though occasionally triangular, chisels, saws, ovoid and discoid scrapers and pendants.

It is difficult to ascertain from the scanty details given by Benucci any idea of the stratification or of the exact shapes of the implements. It is clear, however, that the implements as a whole had many palaeolithic characteristics, for the polished celt is absent and is replaced by the flaked axe of flint. Benucci notes especially a small triangular celt 'of Danish type'.³ Besides this the ovoid and discoid scrapers seem to be of the same type as those of the Vibrata Valley, which are a continuation of the *Moustérien* form.

The pottery of Macchia di Mare was in a very fragmentary condition. The clay was black and coarse, mixed with small grains of quartz and badly cooked. The surface was bright red. One fragment was incised with three parallel

¹ Are they perhaps surface huts, as in the Vibrata Valley?

² A. Benucci, *L'età della pietra nel Gargano*.

³ Obviously a *tranchet*.

lines. The commonest form was the basin of inverted-cone shape.

In the same spot was also found a grave. It was in the form of a small hollow in the soil. The upper part was filled with the black stratum containing charcoal, bones &c., while underneath lay the skeleton in the huddled-up position. In the grave were an obsidian knife and a large flat stone with a smaller round one used undoubtedly for grinding.

5. The
Tremi-
Islands.

Our next station lies on the Isole Tremiti, in the Adriatic Sea (Map I, 51), north of the promontory of the Gargano. On one of these islands, that of San Domino, remains of the neolithic period have been found.¹ No actual settlement was discovered, but the pottery and stone implements give some idea of the neolithic civilization of the island. The pottery is very fragmentary, but clearly belongs to the same class as the earlier ware of Molfetta. That is to say, it is ornamented all over with the help of bone or stick-points, or edges of shells, while the clay is still wet. Among the commonest ornamental motives is the *tremolo* (cf. Pl. II, fig. 4), and it is probable that the decoration also covered the handles. Some of the vases were rough both inside and out; while others were carefully polished, inside or outside, or both. One fragment appears to have had a white filling inserted in the incisions to make the ornament stand out better. This pottery belongs to the group which includes that of Stentinello, Matrensa, Molfetta, Taranto and Matera. The closest parallels to the Tremiti specimens are to be found at Molfetta, in Sardinia, and in the Ligurian caverns, in all which places the *tremolo* pattern is common.

Besides the pottery a few stone weapons were found. Among these are two of the ordinary green stone polished axes. Much more interesting are an axe and a chisel of flaked flint, such as are found on Monte Gargano close by. These flaked-flint weapons mark apparently a continuation of a palaeolithic industry and perhaps of a palaeolithic people in neolithic times. It is to be hoped that further researches will be undertaken in the island, for in a limited area there

¹ B. P., xxxiii, pp. 1, 188.

every opportunity of gaining some new light on this as yet unsettled point.

Passing further down towards the heel of Italy we arrive at the Pulo of Molfetta, with the hut-village of which we dealt in the last chapter. We may therefore move on to the last station of our line of villages, namely Matera.

6. Molfetta.

7. Matera.

One of the hills which borders the Gravina of Matera is known as the Murgecchia. This was evidently the site of a neolithic settlement. Towards the Gravina it is steep and inaccessible; on the other side, where the slope is gentle, Dr. Ridola has discovered two concentric semi-circular trenches cut in the rock about 20 metres apart. He explored a dozen metres of the inner trench and found it to have been filled up with masses of rubbish, including potsherds and lumps of burnt clay, once used to cover huts of wicker-work. The pottery was of all the three types found in the Grotta dei Pipistrelli. The ware painted in broad bands on a yellow surface was particularly common. It seems natural to suppose that the trenches served as a defence to a hut-village which lay within them. It is remarkable, however, that neither trench has a greater average breadth than $1\frac{1}{2}$ metres. At the same time, supposing a rampart of stone to have been erected on the inner edge of either trench they would form a serious obstacle.

The trenches on the Murgecchia.

The trench found by Dr. Ridola on the Murgia Timone when excavating rock tombs of later date, and partly explored by Patroni, was possibly of a similar nature. It certainly contained neolithic potsherds, for some are still left on its banks, but, unfortunately, Patroni does not fully describe its contents. It is of the utmost importance that these trenches should be further explored.

Trench on the Murgia Timone.

Serra d'Alto is a low hill lying behind the Murgecchia. At its base Dr. Ridola found a number of circular hut-foundations, some of which penetrated a considerable depth into the soil. The pottery found in these included, in addition to the usual neolithic incised ware, several fragments of a fine painted ware. Larger quantities of this last were found on the top of the hill by peasants planting trees, but whether in a hut-foundation or in a trench is

Serra d'Alto.

not known. The clay is fine and covered with a whitey-yellow slip, on which the patterns are painted in brown, the whole surface being afterwards slightly polished. The vases appear to be hand-made. Figure 36 will give an idea of the patterns.¹ The most remarkable feature is the extraordinary way in which small triangles are strewn about the design, apparently without reference to the rest of the scheme. The ornament is arranged on the upper part of the body of the vase; as will be seen from the

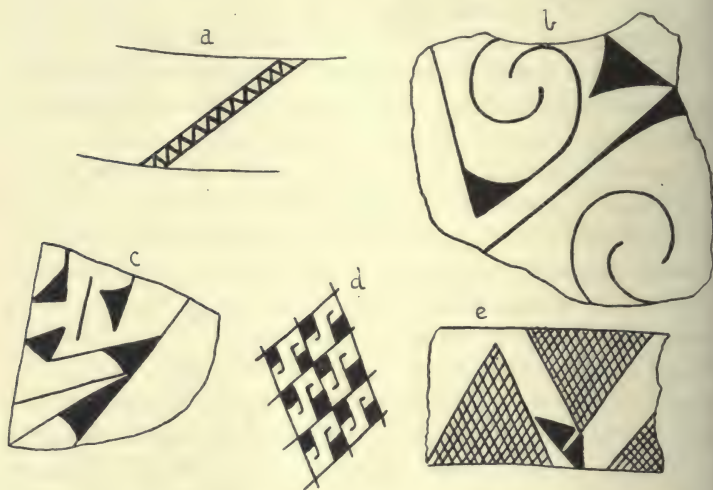


FIG. 36. Designs on imported painted ware, Matera. Scale c. $\frac{1}{2}$.

illustration it includes the spiral and the maeander. This pottery is not local, indeed it does not belong to a fabric whose origin is known. A few fragments occur at Molfetta but elsewhere it is unknown. From the general appearance of the ornament I am inclined to refer its origin to some point of the Balkan peninsula, possibly Epirus. It offers some points of comparison with the neolithic ornament of Sesklo and Dimini as also with that of Galicia. The technique, however, is not precisely the same. For the present it must suffice to leave open the question of its

¹ The sketches are quite rough, but give the essential points of the designs.

origin, merely affirming that it is certainly imported, and probably from across the Adriatic. It bears not the slightest resemblance to any known Aegæan pottery. Here, again, further excavation is vital, not only in order to complete the vases of which fragments have been found, but also to determine the nature of the cavity in which the find occurred.

Our survey of the hut-villages of the Adriatic slope is now complete. We have seen that they extend in a line from above Ancona almost to the heel of Italy. All have common characteristics, yet there are strong local differences. The palaeolithic appearance of much of the flint work at Macchia di Mare, Lago di Lesina and in the Vibrata Valley cannot be overlooked and causes these villages to contrast with the rest just as the rock-shelters of Breonio and Rivoli do with the other caves of North Italy. The significance of these palaeolithic features will be discussed in Chapter VII.

From the objects found we can form some idea of the life and habits of these hut-dwellers. They were in the first place hunters. This is proved by the quantities of bones of stags and wild boars found in the huts. In the second place they were a pastoral people who domesticated the ox, the sheep, and the goat. In this connexion it is worthy of notice that apparently the dog was unknown to them, for no sign of it has ever been found in the huts. Brizio finds no reason for surprise in this absence, stating that the dogs they possessed would naturally be few in number, and that thus there is an *a priori* probability of the absence of their remains. He finds it impossible—why, it is hard to see—that a pastoral people should be without dogs. To others the absence of the dog in these early huts is a fact of great chronological value, for in later huts it is almost invariably present. That the hut-dwellers were an agricultural race is highly improbable. No object has been found in the huts which can even be put down as an agricultural implement, though the existence of flat and rounded stones used for grinding points to the use of some form of grain or nut, not necessarily cultivated.

The hut-villages in general.

a. Local peculiarities.

b. The hut-dwellers hunters,

c. and a pastoral people. The dog absent.

d. The bow not an early neolithic weapon.

One of the most important features of the earliest neolithic hut-foundations is the complete absence of the arrowhead of flint. Chierici, who explored the Reggian huts with extreme care, asserts that in the huts themselves not a single arrowhead was found, and deduced the fact that the bow was unknown to these people when they entered Italy. This, of course, is not conclusive proof, but it is very nearly so when one remembers the vast quantity of flint weapons over which the observation extends. Others, however, finding it extraordinary that the bow should be unknown to these primitive people, point to the fact that on the surface of the soil near the huts numerous arrowheads were discovered. It is scarcely necessary to insist on the worthlessness of this evidence for scientific purposes. To assume that material found near the huts belongs to the same period is absurd, and even if Chierici's deduction was not absolutely certain this last is worse, it is dangerous and misleading.

Colini, who treats the point with his usual care and minuteness,¹ expresses his conviction that the arrowhead is a late neolithic and eneolithic weapon. It is true that arrowheads were found at Alba Cuneo, and in a hut at Collina Reggiana; but there superposition has taken place, as the bulk of the material found was early neolithic.

He points to similar superposition in the huts of Campi Costiere and Donegallo and at Campeggine. In the last case two arrowheads were found at a depth of 5 metres; this statement comes from a letter from Brizio to Colini. But as Chierici found not a single arrowhead at Campeggine, Colini accepts most of the huts there as being early neolithic. As a list of huts where the weapon is absent and which we may thus assign to the older period of the neolithic age he gives those of Albinea, Rivalentella, Castelnuovo di Sotto, Calerno, certain of those of the provinces of Piacenza, Brescia, Mantova and Modena, and the oldest of those of Vibrata Valley and the district round Lake Lesina. In these two last cases it must be noted that man evidently

¹ *B. P.*, xxv, pp. 247-8.

continued to live there in the later neolithic period, for arrowheads are found there sporadically.

That the caverns of Liguria, and of the Apuan Alps and the earliest hut-foundations of Italy, were due to one and the same race can be gathered from the similarity of the objects found in them. In all cases we find remains of a hunting and pastoral people, whose chief implements are the polished axe of green stone, the rhomboid flint and the rectangular knife, and who use vases of very similar forms, while to judge from a *pintadera* found in a hut at Campeggine, the use of pigments for ornamenting the person was known in Reggio as well as in Liguria. There are, of course, considerable local differences, but taken as a whole the remains are so homogeneous as to leave no doubt that they belong to a single people.

e. Hut-
and cave-
dwellers
one
people.

APPENDIX TO CHAPTER III

THE HUT-FOUNDATIONS OF MONTE LOFFA NEAR BREONIO

IN addition to the caves of Breonio already described, a number of remarkable hut-foundations have been found. They are sometimes referred to as belonging to the neolithic period, but I have not ventured to include them in the chapter as I do not believe they are neolithic at all. The difficulty of dating such remains has been alluded to elsewhere, and whoever reads the report of the excavations at Monte Loffa¹ will see the utter impossibility of attempting to date the settlement exactly on the basis of the present evidence. De Stefani explored seven huts. The largest of these lay on the edge of a slope and consisted of two rectangular rooms, one lower than the other, connected by a short flight of steps. The rooms were sunk in the ground and bordered with slabs of limestone which just reached the present level of the soil. The objects found are described in some detail, but in many cases they seem to have occurred not in but outside the huts. Thus the whole report is rendered scientifically useless. The flints appear to have included some of the strange 'freaks' so common in this district, and a few polished stone axes were also found. The floors of the huts were covered with remains of animal bones, and the hearths were still distinguishable. Among the other finds are several objects of iron, a fibula of Certosa type—admittedly found outside the huts—two wheel-made spindle-whorls of clay, some *terramara* pottery and a few remains of glass cups. It should also be noted that in the Museum of Verona, where the objects now lie, the fragments of *terramara*-ware are marked as coming from *under* the huts. He would be bold who attempted to date these dwelling-places with such data before him. The material as it now exists represents several periods, but the impression one gets on the whole is that the bulk of it is at least rather late iron age. There is nothing to point to neolithic times except a few of the flints and the polished axes, all of which may quite well belong to the bronze age.

¹ *Atti dell' Accademia d'Agricoltura di Verona*, ser. 3, vol. lxii.

CHAPTER IV

NEOLITHIC BURIALS

IN dealing with the neolithic caves of Italy we saw that A. Cave-burial. it was not unusual to bury the dead in caverns. This, however, was not the only method of burial in use. It was B. Burial perhaps even more customary to lay the dead in trenches in trench-graves. hollowed in the bare earth (*tombe a fossa*).

A very typical instance occurs at Fiumane (Map I, 55) in 1. Fiumane. the *comune* of Gesualdo, province of Avellino, where several skeletons lay in the bare earth at a depth of 1.20 metres.¹ The tombs were arranged in fairly regular rows so as to a. Tombs in rows. form a small cemetery. Of the two tombs carefully explored one contained a male skeleton with the legs doubled up b. Contracted position. and the face turned towards the East. Within reach of c. Furniture. the right hand was a flint dagger, and near the left a large vase. The other tomb contained a skeleton, probably that of a woman, with an earthen jar. Most of the tombs contained three or four round polished pebbles of limestone, about the size of hens' eggs. These may, perhaps, have been sling-stones. Two of the daggers seem to have been broken before being laid in the tomb.

Here, just as in the cave-burials, the body was laid in the contracted position and accompanied by vases and other objects of funeral furniture. The arrangement of the tombs in rows is interesting.

In some instances the bones of the skeleton are found out of their natural position. Thus at Corona de' Coppa 2. Corona de' Coppa. (Map I, 47), in the province of Campobasso, was discovered a trench-tomb containing a skeleton, the bones of which Secondary burial. were in great disorder.² This renders it probable that this was a case of secondary burial and that the bones were laid here only when deprived naturally or otherwise of

¹ B. P., xxiv, p. 239.

² B. P., xxiv, p. 234.

the flesh. Two flint daggers accompanied the body, one of which was probably intentionally broken at the moment of burial.

Thus in trench-burials, just as in caves, it was apparently possible to choose between the use of the contracted position and that of disarticulation, probably following a temporary interment.

3. Collecchio.

Squatting
attitude.

A third variant is to be seen at Collecchio, near Parma (Map I, 20), where, at a depth of about a metre, a skeleton was discovered, apparently in a squatting attitude, with face to the east.¹ According to the account of the peasants who found the grave, it was in the open earth, without any lining of stone. The furniture consisted of two long arrowheads of flint and a chisel (?) of stone, lying under the feet, and two fine axes, presumably of polished stone, found one behind the neck and one at the right side.

So much for the position of the body. Sometimes, however, it was apparently felt that the skeleton laid in the bare earth was in too exposed a position, and, just as happened in some instances of cave-burial in Liguria, rough slabs of stone were employed to protect it. For example,

4. Alatri.

Tombs
lined with
stones.

at Alatri (Map I, 45), province of Rome, a rectangular tomb was found several metres below the present surface.² It was lined with large stones and covered with slabs of limestone. The skeleton was accompanied by at least four fine arrowheads, with wings and tang. Three of these were almost certainly broken before being placed in the grave.

5. Cavone.

Tomb
covered
with stone
blocks.

A more remarkable example at Cavone,³ province of Caserta (Map I, 46), was actually cut in a stratum of limestone gravel. Its breadth was about a metre, but it penetrated 3 metres into the hill and was covered with large blocks of stone which formed a kind of vault. The skeleton lay on its back with feet to the East. By its side lay two flint daggers, two flint lanceheads broken before deposition, eighteen triangular arrowheads with tang, and three rough vases, one behind the head, and the others beside the arms.

¹ *B. P.*, ii, p. 77.

² *B. P.*, iv, p. 163; xxix, p. 151, note.

³ *B. P.*, xxiv, p. 235.

This example of the actual cutting of the trench in a soft rock is at present almost unique.¹

But the best-known examples of graves with linings of 6. Taran-
slabs are those of Taranto (Map I, 59), where the excavation^{to}.
was carefully done and the furniture properly studied. The
tombs lie at a spot called Punta del Tonno.²

Tomb I is roughly square, and is formed of large blocks
of stone set on edge; it has no cover. Tomb II consists^{a. Stone-}
of a small cavity or niche cut in the earth down to solid^{lined}
rock, and closed by a large stone set on edge. Tomb III^{tombs.}
is elliptical in form and is hollowed in the open soil. Tomb
IV is quadrilateral, lined with large rough stones, and open
above.

At Bellavista, in the same neighbourhood, numerous
graves were found, consisting of cylindrical pits, hollowed
in the surface earth or in the tufaceous subsoil, and some-
times lined with rough blocks.

In both stations the rite is that of secondary burial,^{b. Second-}
and in some cases the skull is marked with a red pigment.^{ary burial.}
A flint knife also showed traces of the same colour. The
bones were occasionally deposited in a stratum of specially
prepared earth.

Flint and obsidian are both used for implements, the^{c. Flint.}
former occurring in the shape of long knives and knives
with toothed edges.

The pottery is of two kinds, one made of blackish clay^{d. Pottery.}
and the other of a finer quality, burning to a bright colour.
The ware is often polished. In regard to forms it resembles
the early unpainted pottery of Matera. The most common
shape is an ovoid cup with horizontal cylindrical handle,
(fig. 37), which occurs in the Grotta dei Pipistrelli at Matera
and also at Paternò in Sicily. A flat vase with similar
handle and body shaped like a frying-pan also finds an
exact parallel in a hut-foundation at Matera. Figure 38
gives another common shape.

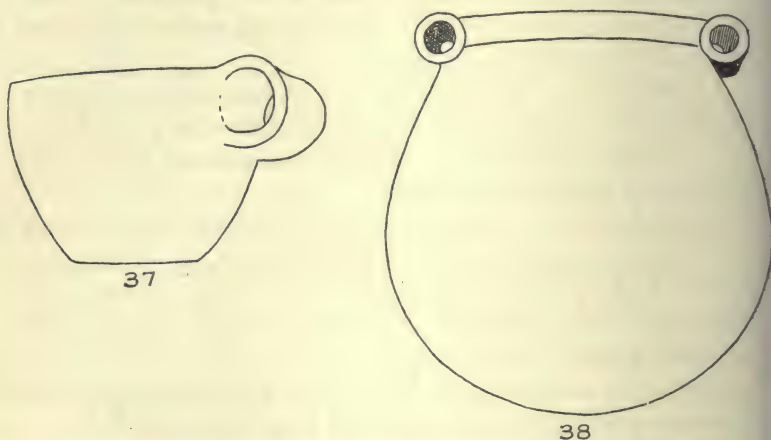
These graves at Taranto are interesting in several par-

¹ Trench-graves cut in soft *tuffo* occur at Le Soccie, province of Rome; see
B. P., xxiv, p. 235.

² *B. P.*, xxxii, pp. 17 ff.

ticalars. In the first place, they throw a new light on South Italian neolithic pottery, and in the second, they prove that the use of red pigment to adorn the body was not peculiar to Liguria and Latium but extended into South Italy.

7. Andria. Another fine series of South Italian vases came from neolithic burials at Andria (Map I, 54), in the province of Bari. Three skeletons were found at a depth of 1.50 metres.¹ It was impossible to tell whether they had been laid in separate graves side by side or in a single one. Above



FIGS. 37 and 38. Vases from neolithic burials at Taranto. Scale $\frac{1}{4}$. (Quagliati, *Bull. Pal.*)

the skeletons was a rough block of limestone, but it is uncertain whether it had been intentionally placed there as a *stele* or as a covering for the grave. The skeletons² lay each on its side with the legs contracted, and the head to the South-West, resting on a stone. No implements of stone or metal were found, but there were several almost complete vases, besides fragments of others. All the vases were small, of purified clay, hand-made, and polished within and without. The ornament consists of hori-

The pottery.

¹ *B. P.*, xxxi, pp. 153 ff.

² The one skull measured was dolichocephalic and pentagonoid, of index 74.4.

zontal bands of incised work or *pointillé*. The forms include hemispherical cups and a small bowl with an *ansa cilindro-retta*.

Both these sets of burials, those of Taranto and those of Andria, show the importance in the eyes of the neolithic people of providing the dead with suitable funeral furniture. From the large proportion of vases it is possible that the majority of the skeletons found belonged to women. With a man it would seem more natural to bury weapons or implements of some kind. This, indeed, was actually done. We have already seen examples at Fiumane, Collecchio and elsewhere. Another occurs at Camigliano, in the *comune* of Montalcino (Map I, 39), province of Siena, where there was found a trench-tomb containing four skeletons.¹ The furniture consisted of two flint arrowheads and several vases. Among the latter were two large bowls with rims turned in, and knobs on the upper part of the body at equal distances from one another. Two other vases are roughly ovoid, one completely covered with knobs (Pl. II, fig. 7), and the other with knobs in vertical lines on the body (Pl. II, fig. 6). A fifth vase is of depressed-spherical form, with knobs round the body, and a cylindrical neck. The clay is sometimes coarse, smoothed on the surface; sometimes it is fine and is polished to a good black lustre.

Unfortunately, few of these examples give us data for determining whether different objects were reserved for male and female burials. This almost certainly was the case, for it has been observed in the eneolithic burials, which seem to preserve all the rites of neolithic times.

We may now draw from our survey of the available evidence some general conclusions as to the burial rites of neolithic times.

There is no fact which points so strongly to the homogeneity in race of the neolithic inhabitants of Italy as the uniformity in burial customs which prevails in the peninsula.

The methods of burial practised were two.² The dead

Uniformity of burial-rite throughout Italy. Twotypes of burial.

¹ *B. P.*, xxiv, p. 233.

² I fail to understand what Pigorini means when he says that in neolithic

body was laid to rest either in a cave or in a grave dug in the bare earth. It is, however, clear that these two methods were due to the same people, for in both cases similar rites are observed in the burial. If any reason, apart from that of convenience, must be found for the difference we may suggest that perhaps cave-dwellers preferred to bury in caves, and hut-dwellers in the bare earth.

It will be evident to any one who has read the account of the various burials given in this chapter that, in the first place, there was a very elaborate cult connected with the burial of the dead, and, in the second place, that this cult was observed in very many parts of Italy. It is, indeed, probable that it was universal. This cult included six very striking customs, besides, of course, that of inhumation. These customs were not all observed in every burial, but we find them in parts of Italy so far apart that they must have been known to the whole neolithic population, perhaps even before they entered the country.

The
neolithic
burial
customs.

1. Stone-lined graves.

2. Burial furniture.

a. Ideas of a future life.

The first of these is the custom of lining the simple trench-grave with rough slabs of stone. This custom is far from usual; instances are given by Colini from the Trentino, from the valley of Aosta, from Alatri, and from the provinces of Caserta and Campobasso, and they cover so large an area that we may assume the custom to have been generally known, if not generally practised. Particularly interesting is the use of stone slabs in several of the burials of the Ligurian caverns. This would afford strong evidence, if we had not already sufficient, for attributing the cave-dwellings and the hut-villages to a single race. Secondly must be noticed the deposition with the body of a number of objects such as flint weapons, pottery &c. We can scarcely be wrong in assuming that this custom points to a belief in a future life of some kind, as it is known to do among tribes by whom it is practised to-day. In the earlier

times the body was buried in a rock-hewn sepulchre whenever a suitable rock-face lay to hand. There is not a certain example of a neolithic rock-grave in Italy. If Pigorini is here speaking of the end of the neolithic period, the so-called eneolithic age, then the statement is correct. But we have no evidence that the neolithic people when they entered Italy already used the artificial *grotta*: in fact, all our available testimony is to the contrary.

part of the neolithic period the skeleton of a man is generally accompanied by a polished stone axe or one or more flint knives, while in the later part of the neolithic age it becomes usual to equip the dead with daggers and arrow- or lanceheads of flint, which were not yet in use in the earlier period. Thus in the Balzi Rossi caves flint knives are the most usual grave furniture, while in the various late neolithic graves of South Italy a flint dagger is almost always present. It would be interesting to know whether the vases contained food for the next world or even for the journey thither. I do not know of any case in which remains of food have been found in the vases, and it is certain that sometimes the vases were purposely laid in the grave upside down. The dead were, in some instances, apparently buried in their clothes, or at least in part of them. In the Balzi Rossi caves one body had clearly been wrapped up or clothed in a skin, remains of which were still visible.

b. Composition of the furniture.

c. Provision of food.

d. Clothes

The objects deposited with the body are not merely thrown haphazard into the grave, but are carefully placed in fixed positions. Thus a dagger is either in the grasp of, or within reach of, the right hand; and a vase is very often laid near the head. In fact, the objects are placed as far as possible according to the use for which they are destined.

e. Careful placing of the objects

Besides being provided with his arms and implements of work the dead was also given the ornaments which he had worn in life, necklaces of teeth or shells, &c.

f. Ornaments.

In the case of a child the burial furniture is generally slight, especially in the Ligurian caves. It is sometimes limited to a mere flake of flint. There are, however, exceptions. A child's grave, about a mile from Enza,¹ contained a fine necklace of thirty-four stone beads. Each bead is ring-shaped, and has its flat faces slightly inclined to one another to allow it, when strung, to fit closely into the curve of the necklace.

g. Furniture given to children.

The third custom is that of contracting or doubling up the body in the grave. This may take several forms. The body may be contracted into as small a space as possible

3. Contraction of the body.

¹ B. P., iv, p. 41.

by bending the arms, legs and back. Sometimes a body contracted in this manner is buried in a vertical position and we thus have the so-called embryonic posture. Again, the contraction may be limited to the doubling up of the legs at the knee, and perhaps, also, the bending of the arms. A favourite position is for the body to be laid in a more or less contracted posture on its left side with the feet to the South, the face thus looking towards the East.

4. *Scarnitura* and secondary burial.

Fourthly, must be noted the rites of *scarnitura* and of secondary burial. It has sometimes been noticed that the bones of the skeleton are damaged or lie out of their natural connexion. This has sometimes been assigned to disturbance of the grave by moles or by agricultural work. But there were cases in which these explanations could not be correct, and besides this, similar facts had been noted in other countries. It was therefore necessary to suppose that the bones when laid in the grave were already in part separated from one another and out of position. This could be brought about in several ways. The bones may have been stripped of their flesh while the body was newly dead, or the body may have been left in a temporary grave until the soft parts had disappeared, and then laid in the tomb in which it is found. We do not know the origin of this custom in Italy, nor can we even tell whether it was confined to any particular class or kind of persons. It occurs in widely separated parts of the peninsula, so that it is not a mere local variation of the burial rite.

5. Use of red ochre.

Fifthly, there is the custom of depositing red pigment with the body. Sometimes the bottom of the grave was strewn with red powder, as in the Ligurian caves or at San Cono in Sicily. Sometimes, however, the bones of the skeleton were tinted with red ochre. This last rite is, of course, connected with that of *scarnitura*, as it was only after the flesh had been removed that the application of a pigment to the bones was possible. Skulls coloured in this way are said to have been found at Villafrati in Sicily. Sometimes, too, the objects laid in the grave are painted red; for example, a vase coloured with a red pigment is said to have been found at Capaci in Sicily.

Sometimes pieces of *ocra rossa* are laid in the grave, perhaps with stones used for grinding them. We know that some form of colouring the person with red ochre was practised by these neolithic people, for we still have the instruments (*pintaderas*) with which the pigment was stamped on to the skin. We cannot, however, tell why this pigment played such a great part in the burial rites, whether it was to be used for ornamental purposes in the next world, or, as by some savage tribes to-day, for a disguise to conceal the dead from devils or enemies whom he might meet there.

The sixth custom to be remarked is that of breaking the objects placed in the grave. Flint implements (daggers and arrowheads) and even polished axes of green stone have frequently been found broken in two beside the skeleton. Unless we suppose these breakages to be due to the weight of earth above them, which seems quite impossible, or to previous rifling of the tomb, which is almost equally so, we must admit that the objects were broken when placed in the tomb. It is generally said that they were intentionally broken at the moment of the ceremony. Similar circumstances have been noted elsewhere, especially in Egypt under the New Empire. A suggested explanation of the Egyptian examples is that in order to enable the implement to reach the other world it was necessary to force its *ka* or spirit to leave this world by breaking it. If this is the real explanation of our examples we get a curious light on the neolithic belief in a future world, for it seems to follow from the breaking of the objects that the next world was regarded as in some sense unmaterial; otherwise a broken axe would have been a useless gift. At the same time we cannot, in the Italian cases, prove that the breaking was part of the ritual, and we must admit the possibility that, when the deceased had such, broken implements were sometimes buried with him from motives of economy.

The examples here given will suffice to show that with the burial of the dead was connected a wide and important ritual, some part of which was always observed. From this we may argue that this neolithic race possessed a body of fixed and definitive religious ideas, including that of

6. Breaking of objects at burial.

Religious ideas.

a future life of some kind. These ideas were firmly rooted in the race, for, as we shall see, they survived almost unaltered into the eneolithic period in various parts of Italy, and even in the iron age we find on the Adriatic coast-slope and also in Calabria the preservation of the rite of contracted burial,¹ and sometimes also of that of lining the grave with blocks of stone.²

Two other points in connexion with the neolithic burial customs, viz. the question of partial cremation, and that of cannibalism, will be dealt with under the eneolithic period, for the neolithic remains known to us give no data for discussing either.

Trepan-
ning.

In the cavern of the Arene Candide in Liguria a small disc of bone pierced in the centre was found. It was formed from a portion of a human skull and from its worn appearance had probably been carried on the person as an amulet. These discs are the result of the operation of trepanning which was performed during life, probably in order to release an evil spirit supposed to be imprisoned in the head. Examples of both trepanned skulls, and of discs are known from the caves of France, and Cartailhac gives some instances from the Spanish peninsula. In Italy we have no specimen of a trepanned skull, but we have three examples of the discs, which were eventually worn as amulets to ward off evil spirits. One has already been mentioned. The other two were found in a *terramara* of the bronze age.³ This use of human bones as amulets is seen elsewhere in Italy. The Pollera cave in Liguria yielded a finger-joint pierced with a hole, and a similar object was found in a hut-foundation near Cremona. In a cave at Casan near Belluno a disc of bone pierced in the centre occurred; it was made from the ball of a human thigh-bone. Finally, in a cavern in the province of Aquila, was found a piece of a human occipital bone, but although it was smooth with use there was nothing to show that it had been an amulet.

¹ *Mon. Ant.*, v, pp. 105-7.

² *B. P.*, viii, p. 93.

³ *B. P.*, iii, p. 63.

CHAPTER V

THE NEOLITHIC PERIOD IN THE ISLANDS

THROUGHOUT the prehistoric periods the Italian islands, The civilization of the islands. especially Sicily and Sardinia, played a part in the advance of civilization which cannot be over-estimated. To any one who has studied the progress of excavation in these islands during the last few years the impossibility of dealing with them, except in special chapters, will be apparent. As Contrasts with that of the mainland. a result of their position they fell under the influences which often scarcely affected the Italian mainland, while, on the other hand, they escaped the great immigrations from Central Europe which characterized the Italian bronze age.

We shall deal with Sicily first, as being the most important I. SICILY. of the islands, afterwards dealing with what little is known of the neolithic age in Sardinia and Pianosa.

By Professor Orsi, to whose untiring labours our knowledge Orsi's periods. of prehistoric Sicily is almost entirely due, the pre-Hellenic period in the island, excluding the palaeolithic, is divided into five divisions. To the first of these he gives the name Sicanian; the other four are called respectively First, Second, Third and Fourth Siculan periods. For the present we shall use these names merely as convenient distinctions to mark the periods, without discussing whether they are legitimate or not. The latter question may be more conveniently treated after their main characteristics have been described.

Two cautions, however, are necessary. In the first place, this division into periods is based upon excavations limited almost entirely to the south-east portion of the island. But at the same time it is to be noted that discoveries in other parts of Sicily, so far from contradicting Orsi's system, have tended to confirm it. In the second place, the divisions

are not in every case hard and fast, for we find, naturally enough, periods of transition from one division to another. Indeed, it is not unlikely that the progress of discovery will ere long render it possible to draw much finer distinctions of time and to subdivide the periods accordingly.

The Sicanian or neolithic period.

Though the evidence at our disposal is as yet small we may affirm the general proposition that neolithic man in Sicily lived both in caves and in the open. And, as on the mainland of Italy, so here, too, are found caves containing human bones so arranged, in some cases at least, as to leave no doubt that the bodies had been carefully inhumed.

Von Andrian's work.

Our knowledge of the cave deposits is mainly due to Von Andrian, who, in addition to collecting the scattered material already to hand, conducted excavations himself in several of the most important localities.¹ Caves used by neolithic man are found in most parts of the island, and, according to Von Andrian, their contents, despite local differences, form a remarkably homogeneous group. This statement, in view of the slender nature of the evidence and the necessity nowadays of drawing rather minute distinctions within a period so long as the neolithic, must be accepted with some reserve. Indeed, we shall give very strong reasons for dividing this neolithic or Sicanian period into two distinct parts. But before this can be done it is necessary to examine the remains which have been investigated.

Caves used for dwelling and for burial.

A. The Palermo district.

Von Andrian's work extended over two districts, that of Palermo and that of Syracuse. Its chief result was to prove that the caves of this locality were used in the neolithic period for habitation and for burial.

1. Grotta Puleri.

For instance, the Grotta Puleri (Map IV, adjacent to 164) in the district of Termini-Imerese contained human bones and potsherds. An instrument of bone seems to have been found, but as to the presence of stone tools there is some disagreement.² The human remains consisted of two lower jaws and some teeth. Separated from these by two

¹ Von Andrian, *Prähistorische Studien aus Sicilien*.

² Von Andrian, p. 34.

heaps of stone was found a human skeleton which was not preserved. There were no bones of animals. The pottery was of rough clay with grains of quartz added; it was polished within and without. Usually the colour is dark and the firing poor, but the technique varies considerably. Some of the vases have graceful shapes and walls of even thickness. The handle is often carefully shaped. Von Andrian adds that the vases with ornament were in the minority, and that the ornament was usually impressed, as on the bell-shaped cup at Villafrati (see below, fig. 41).

It is scarcely necessary to point out that here we have a cave used not as a habitation for the living but as a burial-place for the dead. Every sign of habitation is lacking, while the presence of human bones and pottery points to burial. Used for burial.

Somewhat similar facts were noted in the caves of Villafrati (Map IV, 163) lying not far from Corleone, which is due south of Palermo, and are three in number.¹ They are called respectively Porcospina, Buffa I and Buffa II. The material from the first lies in the museum at Palermo, and comprises pottery, stone implements, and human remains. Buffa I is very much destroyed and has not been examined. Buffa II was excavated during Von Andrian's visit to Sicily. The deposit contains human and animal remains in some confusion, but it was noted that the skulls lay slightly apart from one another, and that each was surrounded by a number of human bones.² It is evident from this that the cave was used for burial. This is confirmed by the absence of ashes and charcoal, which are the invariable signs of human habitation. Numerous potsherds were found. They were of the usual types, some rough, some comparatively fine, often polished and ornamented with incisions or impressions (figs. 39 and 40). Among the 2. Villafrati caves.
Used for burial.

¹ Von Andrian, pp. 36 sqq.

² Of four skulls well enough preserved to be measured, one was dolichocephalic (Index 73.9), one was sub-brachycephalic (81.9), the third decidedly brachycephalic (92.0), and the fourth, reconstructed from fragments, appeared to have an index of about 81.0.

vases was a bell-shaped cup (fig. 41).¹ The stone implements were not very numerous.

None of these four caves allows us to assert that caves 3. Grotta Gerace were used as dwellings. Remains, however, of a slightly different type were found in the Grotta Gerace² (Map VI, 164), near that of Puleri. The deposit is a mixture of earth, ashes, potsherds, stone weapons, bones, &c. The

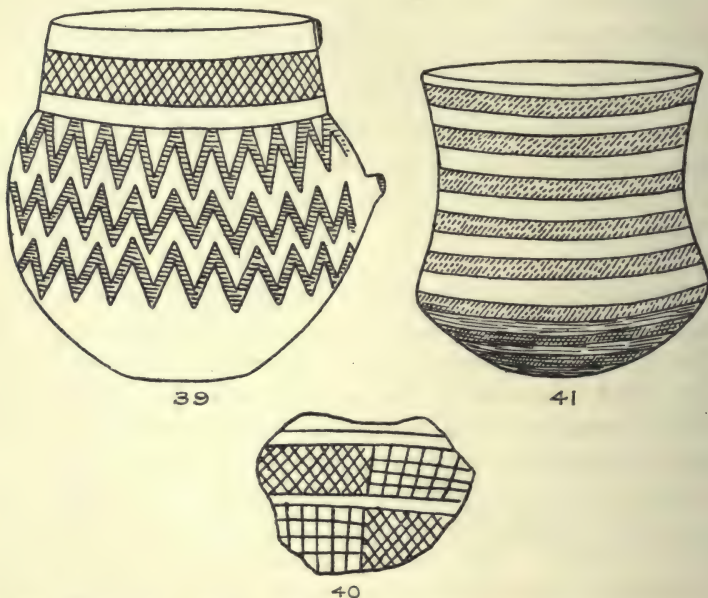


FIG. 39. Incised vase, Villafrati. Scale c. $\frac{1}{2}$.

FIG. 40. Fragment of incised ware, Villafrati. (After Von Andrian.)

FIG. 41. *Glockenbecher* or *bicchiere a campana*. Villafrati. Scale c. $\frac{1}{2}$.

vases are often rough and have few traces of ornament. A few painted fragments, however, suggest that in date we are on the borders of the neolithic and the succeeding period. Some of the pottery is of finer make and has a good polished black surface. The stone weapons are of flint or obsidian. One fragment of polished stone was found. The animal bones were numerous and showed signs of

¹ The German *Glockenbecher*, and the Italian *bicchiere a campana*.

² Von Andrian, p. 35.

burning. A few human bones were found and a few of these too were marked by fire. The phenomenon also occurs in other neolithic caves of Italy, especially in Liguria and Sardinia. Its significance is discussed elsewhere, p. 197.

Judging by its contents this cave must have been used as a dwelling-place and a burial-place too. But the notices of the excavation are too vague to afford much basis for reconstruction.

Used for
burial and
for habita-
tion.

Such were the discoveries made by Von Andrian. Since that time our knowledge of the district, and especially of its pottery, has been increased by a fortunate discovery at Moarda near Monreale (Map IV, 162); among a mass of bones, mostly human, were found three flint weapons, a number of fragments of pottery and a few complete vases.¹ The clay is blackish-grey, and the walls of the vessels are often relatively thin. The ornament is incised, sometimes rather deeply, and consists of bands filled with hatching or cross-hatching (fig. 42). The handle running to a point at the top occurs, and the form shown in fig. 43 is common.

4. Moarda.

The deposit occurs in a kind of rock-shelter, at the base of a perpendicular cliff rising from the gentle slope of the hill. Originally the place was, no doubt, more protected than it is now, and it may have been perhaps a true cave.

In the Syracuse district Von Andrian's explorations lead to very similar results. On the sea coast just north of Syracuse he examined several caves. The most important of these are La Seggia, La Scorosa, Dei Molinari and I Due Paperi² (Map IV, 193).

B. Syra-
cuse dis-
trict.

La Seggia seems to have been used for a long time as a habitation. There are no human bones, proving that the cave was never used as a place of burial. The weapons and tools of flint and obsidian are carefully worked. A long thick knife of rhomboidal or trapezoidal section was found, together with shorter knives of triangular section. In obsidian we have short knives, 20 to 46 mm. long, of rectangular, triangular or rhomboidal section. The arrow-heads or lanceheads vary in size and finish, one beautiful

1. La
Seggia.

¹ *Not. Scav.*, 1884.

Von Andrian, pp. 74 sqq.

example showing the incurved base and minute flaking on the edges. The pottery is as usual of two types, rough and fine. The latter is sometimes incised with simple geometrical designs.

2. La
Scorosa

La Scorosa yielded remains very similar in type, and due undoubtedly to the same group of people. There were a few signs of ashes and some human bones. The cave was therefore probably used as a burial-place.

3. Dei
Molinari.

The caves of the Dei Molinari group yielded only stone implements of similar type to those of La Seggia and La



42



43

FIG. 42. Incised vase, Moarda. Scale c. $\frac{1}{4}$.
FIG. 43. Inverted-conical vase, Moarda. Scale c. $\frac{1}{4}$.

Scorosa, but they have never been fully explored and no inference can be drawn from the finds.

4. I Due
Paperi.

The cave called I Due Paperi contained a deposit of great interest. It comprised rough potsherds, a stone chisel of polished serpentine, arrowheads, flint knives, obsidian flakes, a clay spindle-whorl, two small ornaments and some human teeth. There were signs of fire to be seen both in the patches of hard red earth and in the cinders found in it. Von Andrian dismisses at once the idea that we have to deal with a dwelling-place, for the cave is very inaccessible, and its roof is very low, especially in the part where the deposit was found.

The stone implements resemble those of La Seggia. The pottery is all plain. The spindle-whorl is depressed-spherical with a marked keel. Of the ornaments one is a disc of clay with four holes, and the other a rolled pebble pierced artificially.¹

A little further from Syracuse itself, the district around C. Modica Modica (Map IV, 190) was found to be singularly rich in district. early remains. Besides the Grotta San Lazzaro examined by Von Andrian, which contained material now known to be not neolithic but Siculan I, some remains were found by Maugini in the Cava d' Ispica (Map IV, 198). He 1. Cava d' Ispica. calls them neolithic and mentions an axe and a hammer and a piece of hard limestone. He also speaks of finding the remains of a megalithic monument with bones under it, showing, in his opinion, that it served as a grave of some dignity among the primitive people.²

In Modica itself, in a spot called Vignazza, were found 2. Vignazza. some thousands of flint and obsidian knives, mostly in fragments, several clay spindle-whorls, potsherds—some with designs in lines—borers of bone and sling-missiles of terracotta and stone.³ With these remains were found animal and human bones, and pieces of carbon. The nature of this station does not appear, nor from the mention of 'potsherds with designs in lines' can we assign it to any definite period.

Such were the few and unreliable facts known with regard Later to the neolithic period in Sicily when the discovery by researches in Sicily. Orsi of the settlements of Stentinello and Matrensa completely altered the situation.

The settlement of Stentinello (Map IV, 185) lay to the Stenti- north of Syracuse on the edge of the sea, which has already nello. washed away part of the fringe.⁴ It apparently consisted 1. The site. of a number of huts of which all trace has disappeared, placed on a plain dominated all round by heights.

¹ Other remains of the neolithic period have been found in the vicinity of Syracuse and are described by Orsi in *B. P.*, xv, pp. 48-58.

² *B. P.*, viii, pp. 25-7.

³ Maugini, *Scoperte preistoriche in Sicilia*, p. 4.

⁴ *B. P.*, xvi, pp. 177 sqq.

The inhabited part apparently occupied a rough square of more than 300 metres in each direction, but only a small proportion of this space has been excavated. In two natural hollows leading down to the sea was found a thick black earth containing split bones, stone implements and great masses of pottery.

2. Stone
imple-
ments.

Among the work in stone, flint knives are the most numerous objects. They are rectangular flakes varying in length from 3 to 20 cm., and usually trapezoid in section (fig. 44). They show very little working and very little variation from the type. A few indeed are somewhat pointed towards one end and apparently served as spear-heads. Other knives are badly chipped on the edges by

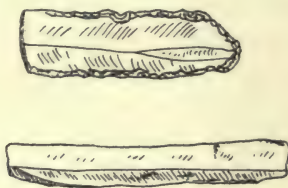


FIG. 44. Flint knives, Stentinello. Scale $\frac{5}{8}$. (Orsi, *Bull. Pal.*)

constant use, and some of these were without doubt used as saws, which is confirmed by the shining polish which friction has imparted to their two edges. Of obsidian are numerous fragments and some knives of similar rectangular shape but much shorter. The fragments of three axes of basalt were also found. The most complete was practically cylindrical in shape. Finally, we have an elliptical slab of lava, apparently used for grinding food of some kind.

The chief facts that strike one in regard to the work in stone are the absence of fine flaking of any kind, of the arrowhead, and of the polished axe of hard green stone such as nephrite.

3. Bone ob-
jects.

The only object of worked bone is part of a thin polished elliptical slip, perhaps a vase-polisher.

4. Pottery.

The clay.

In complete contrast with the poverty of the stone forms is the wealth of design shown by the pottery. The clay

is of two types only, a finer, used for nine-tenths of the vases, and a coarser, differing from the former only in containing a larger proportion of limestone grains. The grains contained in the finer clay vary in size according to the thickness of the vase for which they were intended. The baking is good and complete, though not quite even. It clearly took place in an open fire. The colour of the clay in fracture varies from black in the thinner vases to red in the thicker, but the surface is almost invariably blackish-grey. Most of the finer vases have a fine glossy polish.

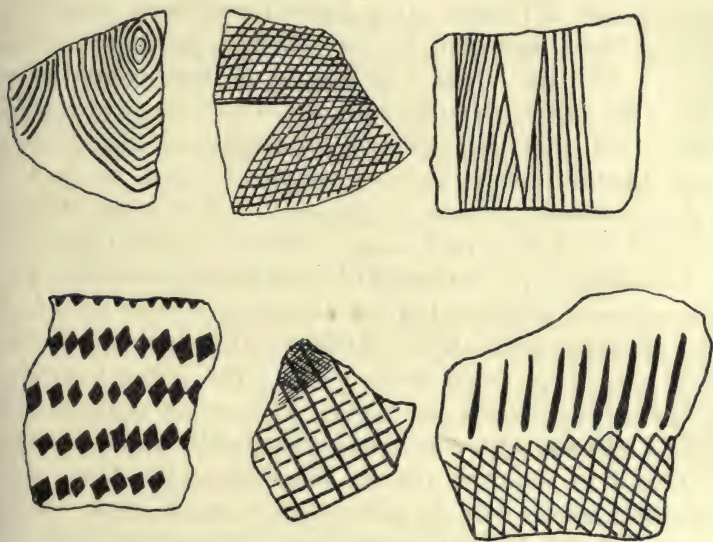


FIG. 45. Designs on incised ware, Stentinello. (Orsi, *Bull. Pal.*)

The ornament at first gives mainly the appearance of being incised in the damp clay with a not very sharp pointed instrument (fig. 45). The incisions are generally grouped quite closely and filled with a very pure white substance. The Stentinello ware, however, differs from all other white incised pottery in that, owing to the closeness of the incisions and their breadth, the ornamented surface often shows almost more white incrustation than dark background (Pl. I, fig. 6).

Methods of
incising.

On closer examination it becomes clear that much of this ornament, even when it appears to be incised, is in reality stamped, or at least produced by some mechanical means. Orsi has given special attention to this question and makes a list of the methods in use at Stentinello. Simple graving-tools consisting of points producing fine incisions or deep furrows, according to their shape, are used mainly to ornament coarser vases. An equally simple means was the use of the finger-nail or of a split tube of wood to produce arc-shape impressions, sometimes displacing a small quantity of the clay by means of a lateral movement. A series of incisers (*stecche*) must also have been used, consisting probably of bone, with flat or rounded points of various shapes. The combination of several of these points would form a kind of comb to be used in drawing series of parallel lines. Orsi also suggests the possibility of small woven mats (*graticci*) of twigs or corn-stems, used to impress a close network-pattern on the clay. But most striking

Stamping.

of all is the use of real stamps cut into various patterns. The extraordinary regularity of most of the decoration puts the existence of these beyond all doubt. They may have been of stone, wood, bone or other material, but unfortunately none have come down to us. The forms impressed by these instruments are many. Concentric squares, concentric ellipses, and concentric rhomboids, often fourteen or fifteen in number, are the most graceful. Lines with fine toothing on one or both sides, rows of small circles, rows of rhomboids with points at their centres, and net-shaped patterns are all produced by this method. One would almost suspect, if it were possible in neolithic times, the use of a rotating wheel with the pattern raised on its rim.

Arrange-
ment of
ornament.

No description can convey any idea of the charm and grace with which all these elements are welded together into an ornamental system. Petersen divides the fabric into three classes, according to the way in which the ornament is arranged.¹ We may have a single ornament element, possibly repeated, or a combination of several elements without a definite part of the surface being reserved for

¹ *Röm. Mitth.*, xiii, 1898, pp. 175-6, fig. III.

each, or lastly, an employment of various elements, each having a definite limited sphere, and arranged with a view to obtaining contrast between plain and ornamented parts of the vase surface. This division is not entirely convincing. Between the first two classes there is merely an accidental difference, while that between the second and third, to one judging either from Petersen's illustrations (*loc. cit.*, p. 163, fig. III), or with the whole material before his eyes, seems arbitrary. As far as it is possible to gather from the fragments the ornamental elements were almost invariably arranged round the vase in horizontal bands. Thus we may have a band of dog-tooth ornament, or a band of horizontal or vertical zigzags, or four rows of chain work. A band need not, indeed, continue right round the vase, but at the same time there is no sign of attempt to divide the surface up into distinct panels (Hoernes' *Rahmenstil*).

Owing to the fragmentary state of the pottery very Forms. little can be gathered as to the shapes of the vases. It is certain that some of them were large hemispherical vessels of rougher make, used, no doubt, for holding water or provisions. Of the vases of medium size the most usual were hemispherical basins, with firm ring handles. The smaller vases vary considerably in form. There are inverted-conical cups, with sides curved gracefully out, hemispherical basins, shallow bowls with a distinct keel round the middle, and conical vases with a ring-foot.

The handles vary but little. Most usual is the vertically- Handles. set ring-shaped handle of ribbon type, very solidly attached. Knobs or tongues to be used in holding the vase do occur, but not commonly. The passion for covering the handle with ornament should be noticed.

Finally, there were found three fragments of plastic work 5. Figures. in terracotta. The first is the fore-part of a quadruped perhaps originally attached to a vase. It is very 'geometrical' in shape; the head, now lost, was fastened to the body by a small peg, and a furrow incised round the neck represents a collar. The second fragment is apparently the *torso* of a human figure; it is cylindrical in form, flattened at the shoulders. The third is the head of a horned animal.

The whole surface except the horns and the eyes, these latter marked by circles, is covered with a mass of incised lines, which cross and re-cross, giving the idea of a shaggy coat of hair. The head is pierced for hanging.

6. Bones. The bones found at Stentinello include those of the goat, sheep, ox (both large and small varieties), pig and dog.

Matrensa. The settlement excavated by Orsi at Matrensa (Map IV, 195) in 1898-1900 contains material similar to that of Stentinello. It still remains unpublished, however. It is indeed to be seen at the museum at Syracuse, but, until the excavator is able to give us his account of it, it would be unfair to enter into details. The settlement was a village in the open. The industrial remains were found at the bottom of several great trenches 12 to 30 metres long, about 3 metres broad, and 4 metres deep.¹ They consist of pottery and stone implements, and are mingled with animal bones. The pottery is precisely similar to that of Stentinello, but besides showing many new geometrical designs it has given us several complete vases. The flints show the same lack of variety as at Stentinello.

The potsherds shown in Pl. I, fig. 6, are from Matrensa. I am indebted to the kindness of Dr. Orsi for the original photograph.

Stenti-
nello type
of pottery.
Differs
from that
of Villa-
frati-
Moarda.

It will be obvious to any one who will compare the Stentinello and Matrensa vases with those found in the Palermo district at Villafrati, Moarda and elsewhere, that the two groups are entirely different fabrics. In the first the ornament is incised with a rather blunt point, or with special implements on the still damp clay. In the second it is sharply incised, and the designs are arranged in bands which are either singly or doubly hatched. Moreover, the Stentinello-Matrensa material has earlier characteristics than the Villafrati-Moarda, especially as the latter includes the bell-shaped cup, which is a *late* neolithic product.

The two
types of
pottery
mark two
periods.
Period I.

We may therefore divide the neolithic period in Sicily into two parts, an earlier and a later. The earlier includes all those settlements in which pottery of the Stentinello type has been found. The chief stations of this class are

¹ *Not. Scav.*, 1900, p. 208.

Stentinello itself and Matrensa. The same type of pottery occurs in smaller quantity in the caves of Corruggi,¹ La Seggia and La Scorosa.² A few fragments in the Syracuse museum are marked as coming from near Megara Hyblaea, and at Paterno there are several pieces which bear some resemblance to the Stentinello sherds.

The second and later division consists of such remains Period II. as those found in the caverns of Moarda, Puleri and Villafrati. Here there is very little in the pottery that reminds us of Stentinello. The clay is different, the ornament shows a different taste, and the shapes are more advanced. The old method of ornamenting by means of stamps has gone, and is succeeded by a system of incised bands filled with single or double hatching, and worked into not very complicated patterns.

In order to determine the relation of these two ceramic types to one another, we must first determine the relation of each to other neolithic fabrics in the Mediterranean, and, if necessary, elsewhere.

Any one who will examine the neolithic pottery of the museums of Syracuse and Candia, will see at once that the Stentinello ware may well belong to the same context as the neolithic ware from below the floors of the palace at Knossos,³ and elsewhere in Crete. Unfortunately, neither the Sicilian nor the Cretan ware is as yet fully published or illustrated, so that comparison is difficult (fig. 46). In both systems of ornament, however, we may notice the use of straight lines toothed deeply on one or both sides (*a*, *b*), straight lines with short strokes crossing them and straight lines with strokes set on each side (*c*, *d*), forming a feather pattern, or with longer strokes on one side only (*e*). Passing to more complicated patterns we find common to both the placing of rhomboids side by side in rows (*f*), the use of zigzag

Affinities of these two types of pottery.

1. Stentinello ware.

Related to Cretan neolithic ware.

Comparisons.

¹ The Grotta Corruggi near Pachino was undoubtedly used as a dwelling in neolithic times. It contained a deposit of shells and bones, probably remains of food, together with a stone axe, a few flakes of obsidian, and a number of flint implements of rough workmanship. See *Not. Scav.*, 1898, p. 35.

² Von Andrian, *op. cit.*, Tav. V, figs. 5, 6, 11, 14, 15, 16.

³ *J. H. S.*, 1901, xxi, p. 96, fig. 30; *J. H. S.*, 1903, xxiii, Pl. 4.

lines set parallel to one another (*g*), and of hatched triangles (*h*). Characteristic of both groups is the method of setting a running pattern of some kind just below the rim, and drawing below this again numbers of closely set parallel, vertical, or sloping lines (*i*). In both is seen a love of broad ribbon handles covered with incised ornament. In both, too, we have the combination of the ribbon handle with others, which are merely developed string-holes, and as

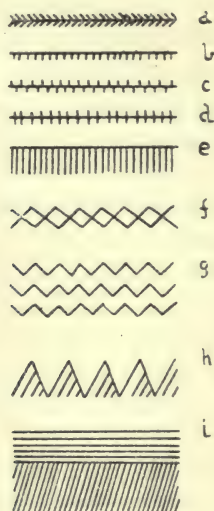


FIG. 46. Incised designs common to Cretan and Sicilian neolithic pottery. (*B. S. A.*)

far as can be deduced from the evidence of fragments there is some similarity in the forms. Finally, we must notice that the technique is similar. In both cases we have a good clay, well fired, incised with white filling, and finely polished until the surface shines.

Contrasts.

But in contrast to these similarities there are two great differences. In Crete, towards the end of the neolithic period, side by side with simple incised patterns we find others formed of incised bands with points, a style which is entirely lacking in Sicily.

Moreover, there is in Crete no sign of the elaborate system of stamps used at Stentinello and Matrensa. From these differences it seems probable that while both sets of pottery had a common ancestor they developed on rather different lines, and we should be very bold if we attempted to deduce one from the other. Further, the Cretan ware developed in Crete itself, and in the 8 metres of neolithic deposit at Knossos it can be seen passing through various stages of development; in Sicily we see the fabric at one single moment of its existence. We cannot tell in the light of present excavation whether it appeared suddenly ready-developed in the island, or whether it passed through various stages before it reached the perfection in which we find it at Matrensa and Stentinello.

In point of date the Sicilian ware would probably come towards the end of the neolithic series of Knossos.

Date of the
Stentinello
type.

This may be inferred from the advanced character of the ornament. It is true that the Matrensa vases have simple rims, while some of the Cretan specimens have rims which are slightly turned out. This, however, is scarcely a fair criterion of date, except in a single district. Moreover, on the mainland at Matera among the vases ornamented in the Stentinello technique, and therefore probably contemporary with those of Stentinello, are some which reproduce forms usual in the early Cycladic period, as for example, in the cave-burial of Haghios Nicolaos¹ in East Crete, in the early tholos at Haghia Triadha,² and in the earliest cist graves. From these parallels we may infer that the Stentinello ware is contemporary with the later part of the Cretan neolithic period, rather than the earlier.

The later type of pottery, that seen at San Cono, Villafrati, Moarda, Puleri, in which the hatched band is the base of the ornament, also has its affinities with foreign wares. Pigorini, as early as 1882,³ called attention to this pottery, and instituted comparisons with the pottery of the dolmens and artificial grottoes connected with them.

Affinities
of the
Villafrati-
Moarda
ware.

¹ *B. S. A.*, ix, p. 341, figs. 1 a and 2 c.

² *Memorie del R. Ist. Lombardo di Scienze e Lettere*, vol. xxi, 5, p. 249, Pl. VIII and IX.

³ *B. P.*, viii, pp. 29-35.

He pointed especially to the bell-shaped cup (*bicchiere a campana*) of Villafrati. This cup is the most characteristic vase shape in the dolmen civilization, and occurs in France, Spain, Portugal, Bohemia, Denmark and England. Besides the shape of this particular vase the ornament of others points in the same direction, especially the use of hatched bands.

Chrono-
logical
parallels
between
Sicily and
Italy.
An earlier
and a
later
group in
Italy also.

We have thus determined the groups of pottery to which the two Sicilian series are most closely related. But in what relation do they stand to the Italian group? In North Italy we have two groups, the earlier represented by the oldest hut-foundations of Reggio, by the caverns of Liguria and the villages of Fano and Alba Cuneo, the later by the eneolithic tombs of the Brescian province, the cavern all' Onda and other stations. The latter group corresponds, chronologically at least, to the later Sicilian group. The bell-shaped cup occurs at Ca' di Marco,¹ and the hatched-band technique in the Grotta all' Onda.² Into the same context comes, of course, the pottery of the Grotta-di Sant' Elia in Sardinia. The earlier North Italian group is said by Colini to have its parallel in the Stentinello-Matrensa series. This seems to me most doubtful. In the Reggian hut-foundations stamped ornament does indeed occur, but is very simple, and bears no resemblance to that of Sicily, while at Alba Cuneo there is no stamped work at all. On the other hand the favourite North Italian technique of applying relief-bands of clay and marking them with the fingers is utterly unknown at Stentinello. Surely the nearest Italian parallels to Stentinello are to be found not in North Italy at all but in the south at Molfetta, Matera and the Isole dei Tremiti, where the Sicilian technique, even if not found in its perfect form, was at least used.

Early
pottery of
Upper
Italy and
Sicily only
chrono-
logically
parallel.

Conclu-
sions.
Affinities
of Sicily
with the
Aegean.

The conclusions which can be drawn from this are as follows. At a certain point in the neolithic period part of Sicily was inhabited by men who used a type of pottery having affinities with the neolithic ware of Crete and possibly

¹ *B. P.*, xxiv, Tav. XI, figs. 6 and 11.

² *B. P.*, xxvi, Tav. V, fig. 1.

other parts of the Aegæan. The origin of this ware may very possibly be due to an immigration of people by sea, perhaps from Africa. The presence of similar pottery in South-east Italy may mean that such an immigration affected this district as well as Sicily, or it may simply mean that the technique was introduced from Sicily itself, perhaps when it was past its prime.

Can we, finally, determine the relation of these two Sicilian groups to one another. In the present state of our knowledge it would be rash to advance any theory. We know nothing of the later history of the Stentinello ware. It is impossible, however, that the later ware is directly derived from it. The new style is far more probably due to a foreign influence which affected the islands strongly, and the mainland of Italy less strongly. This influence was perhaps that of the people who built the megalithic monuments.

Relation of the two Sicilian wares to one another.

Petersen, who touches on this point in his masterly critique of the Sicilian pottery, is not very clear on the matter.¹ He attempts to show that the ornament of the later group, i.e. that of Villafrati, is a continuation of the earlier. This is, of course, facilitated by his division of the Stentinello ornament-system into three types, a division which, as we have already noticed, is not entirely satisfactory. He then points out that the pottery of La Seggia and La Scorosa—which he places in the later group—is of the second Stentinello type, and that that of Villafrati and Moarda is a developed form of the third Stentinello type. But surely La Seggia and La Scorosa do not belong to the later group at all, but to the earlier. And, moreover, there is an immense gap between the ornamental system in the most advanced examples of Stentinello, and that seen on the vases of Villafrati and Moarda. While admitting that there is nothing to prevent the Stentinello forms of design from having to some extent influenced those of Villafrati—though I fail to see sure signs of it—I feel certain that there are differences in the latter due to the introduction of a new taste from abroad. Indeed, the fact that an exactly

Villafrati ornament not a derivative from that of Stentinello.

¹ *Römische Mittheilungen*, 1898, pp. 150 sqq.

similar element appears suddenly at a certain period on the Italian mainland, seems to demand this explanation.

General conclusions.

The picture which we are able to form of neolithic Sicily is far from complete. Only a fraction of the island has been explored, and some of that in a desultory fashion.

1. Stentinello period.

a. Method of living.

A few facts, however, emerge from the darkness. At Stentinello we see neolithic man, living in perishable huts in the open, leading a pastoral, possibly also an agricultural life, producing pottery which shows a most advanced taste, and yet, as regards stone implements, limited almost entirely to the axe of basalt and the flint or obsidian knife.

b. Burial.

As to the method in which the dead were buried we have no evidence, for, though the cavern of La Scorosa contained both skeletons and Stentinello pottery, the two are not necessarily connected. Judging from the unpublished material we may, at Matrensa, have a slightly more advanced form of the same civilization.

2. Villafraati period.

a. Foreign trade.

The later history of this phase we are unable to trace, for next time the veil is lifted it is to show us something almost entirely new, a more advanced neolithic culture with incised pottery of dolmen type. We have no evidence for supposing that this new type of pottery was due to the immigration of a new race. Certainly no such immigration can be proved, and it is perhaps more likely that, as in Italy, this new culture was due to the establishment of closer relations with foreign countries. During this later neolithic period caverns were probably used as habitations.

b. Burial. Cave-burial. Trench-tombs.

The dead, as we have seen, are often buried in caverns during this period. But another method of burial was also in use, namely interment in trench-graves, in the bare earth (*tombe a fossa*).

Sciri.

An example of this occurs at Sciri, near Licodia-Eubea (Map IV, 178). The skeleton was incomplete, the skull and several bones being missing. The furniture consisted of a fine polished axe and a rough unpolished unornamented vase.

San Cono.

A very similar tomb was found at San Cono¹ in the

¹ B. P., xxv, pp. 53-66.

same district (Map IV, 177). It was roughly round, and at the bottom a recess was cut in the side to hold the folded legs of the body. The bottom of the grave was strewn with a red substance, probably the *ocra rossa* of the Ligurian caves and elsewhere. The skeleton was represented only by a few fragments. The furniture consisted of four vases, a flint knife, a flake of obsidian, and two elliptical slabs of basalt, the last used to grind red ochre. The vases are of poor clay, dark grey in colour, hand-made and cooked at an open fire. The ornament consisted of incisions filled with a white paste. The best preserved vase has below the rim a row of hatched triangles side by side. From this row hang festoons consisting of singly-hatched bands, and a similar band crosses each festoon as a chord crosses its arc. This vase is sufficient to show that the grave belongs to the later (Villafrati-Moarda) period.¹

Of the life of this later period we know little. The art of working stone has, however, advanced since the days of Stentinello, for at San Cono² has been found a flint-working settlement, which shows types of implements and a perfection of working quite unknown in the earlier period.

c. Method
of living.

Flint-
factory at
San Cono.

There are several axes in basalt and polished green stone, but the majority of the objects are of flint. These include several axes, the usual rectangular knives, borers, saws, scrapers and a number of arrowheads. These last, owing to their great rarity in Sicily, are of particular interest. The shapes are various. Some examples are worked on one face only, others on both. They are triangular with straight or incurved base (fig. 47), and with straight or convex edges, or they are leaf-shaped, or winged and tanged. Sometimes there is only one wing. Some are very roughly flaked, others show quite fine work and toothed edges. None, however, can be compared in fineness with the work of the neolithic period in Italy. A few objects of obsidian were gathered.

¹ Cafici, however, attributes the grave to the Stentinello period on the evidence of the pottery!

² B. P., v, pp. 33-43.

Such are the main outlines of the neolithic period or periods in Sicily.

Ethno-
logical
problems.

Neolithic
Sicilians
more
nearly
related to
Aegean

Can we draw any ethnological conclusions? Colini believes that we can.¹ 'The similarity in respect of habits, customs, methods of dwelling and industrial products between the neolithic civilization of Italy and that of Sicily shows that they are not only chronologically parallel, but that they are due to peoples ethnically related.' The truth of this statement depends on the degree of the ethnical affinity. No doubt the neolithic people of Italy and of Sicily both belong to one great stock, but there seems to be no evidence for considering the neolithic Sicilians (Orsi's *Sicani*) any more closely related to the neolithic people of Italy than to those of Crete or Greece. In fact a comparison



FIG. 47. Neolithic arrowhead, San Cono, Sicily. Scale $\frac{1}{4}$. (*Bull. Pal.*)

than to
Italian
people.

of Sicilian and Italian neolithic material affords more points of contrast than of similarity. The rarity in Sicily of the arrowhead, of huts with foundations hollowed in the earth, of flint work with fine re-touching, of relief ornament on the pottery, of the *ansa cilindro-retta*, of the rhomboid flint, are surely points which cannot be passed over.

Sicily
and the
Western
Mediterranean.

We must also beware lest we misinterpret Colini's assertion that the Sicilian neolithic civilization is connected in many respects with that which flourished contemporaneously on the shores of the Central and Western Mediterranean, especially in Italy, the Iberian Peninsula and South France. If by the neolithic civilization of Sicily is meant that seen at Stentinello, this statement is surely false, for the special

¹ *B. P.*, xxx, p. 157.

affinities of that civilization are with Crete and the Aegæan. If, however, the statement refers to the civilization seen at Villafrati and Moarda it is perfectly true. In the present state of our knowledge nothing is more important than to realize and ever keep in mind these two different phases of the Sicilian neolithic period.

Even in equating these two phases in point of time with the neolithic and eneolithic phases in Italy¹ itself we must use caution. The Villafrati-Moarda pottery, when it appears in Italy, seems to be accompanied by the earliest weapons of copper. But in Sicily no copper has as yet been found with this pottery, and the metal is indeed rare, even in the period which succeeds that of Villafrati-Moarda, i.e. in that known as Siculan I. This does not prove the chronological equation unsound, but it suggests that it ought not to be used until further proof of its soundness is forthcoming.

The material at our disposal for the study of the neolithic period in Sardinia is scanty and unreliable. II. SAR-
DINIA.

At Monte Urpino (Map I, 68), near Cagliari, however, the remains of a neolithic settlement were found.² Obsidian was found in great quantities and of two different qualities, the transparent striated and the closer-grained opaque. With this material were made small rectangular knives and arrowheads of various shapes. The almond and olive-leaf are the common forms, but the winged form with or without a tang is not rare. A few knives and flakes of ordinary flint were also found. Of stone were gathered two fragments of axes of polished grey stone, and club-heads with a hole in the centre. The pottery is baked in the open fire, blackened within and reddish without. In some cases the surface is covered with a black slip and afterwards polished. The clay always contains particles of quartz.

The remains of food consisted of the following sea-shells, *Cardium Lamarcki*, *Ostrea lamellosa*, *Pectunculus pilosus*,

¹ Cf. Colini in *B. P.*, xxx., p 157.

² *B. P.*, xxiv p. 45.

Spondylus gaederopus, and an indeterminable species of the genus *Mytilus*. Two shells pierced at the apex must have served as pendants, or as part of a necklace. A small pendant of limestone was also found.

Loddo and Taramelli suggest that the settlement belonged to manufacturers of stone implements who may perhaps have used as dwelling-places the caves close by, which it is hoped are shortly to be examined. The settlement is by no means isolated, as neolithic remains have been found in Cagliari itself, at Is Arenas and at Terramaina. It seems possible that the neolithic inhabitants of Sardinia arrived by sea and founded their earliest settlements on the heights around Cagliari.

Burial.
Cave of
S' Oreri.

We have also evidence that caves were used for burial in this period. In the cave of S' Oreri, province of Cagliari (Map I, 67), human remains,¹ badly preserved, were found mixed with potsherds, shells and animal bones. The objects gathered among the deposit included nuclei, knives, scrapers and lanceheads of obsidian, a polished axe of diorite, a shell used as a pendant, and several complete vases, including one of the tripod basins typical of the eneolithic material of the caverns of Cape Sant' Elia.

Another cavern, Grotta del Bandito, was found near Iglesias in the same province.² There is, however, some doubt as to the date of the burials which it contained.

No further material is as yet at hand, and it is to be hoped that excavation in this important island will be pushed on as rapidly as possible.

III. PIA-
NOSA.

In the island of Pianosa (Map I, 40) it is possible that the neolithic period is represented by certain caverns, sometimes natural, sometimes enlarged artificially, containing in some cases burials and in others remains of habitation. Each cave contained several burials, and in one case the skeleton was found in the contracted position. But as one of the skulls was marked with oxide of copper it may be that some of these burials, at least, belong to the eneolithic period.

¹ B. P., x, p. 1.

² B. P., xx, p. 34.

CHAPTER VI

NEOLITHIC MATERIAL

THE majority of the objects found in the neolithic stations have been shortly described with the sites themselves. It may, however, be worth while to attempt to group together and illustrate the more important of these objects, discussing the various special points of interest to which they give rise. We may conveniently divide them into objects of stone, of bone and of earthenware.

The stone objects consist of two classes, those which are produced by flaking, and are almost invariably of flint or obsidian, and those which are produced, or at least finished, by polishing or grinding, and are never of flint.

The material most generally used for flaked implements is flint, which occurs in large quantities in most parts of Italy. The neolithic people introduced into Italy the custom of using carefully prepared cores, the outer flakes of which had been removed and discarded. Thus a series of long regular flakes could be struck off and the work of reducing was lighter. In the palaeolithic period the use of prepared cores was unknown, except to the people who inhabited the Balzi Rossi caves in the most advanced stage of the era.

The commonest of all neolithic implements is the rectangular knife, which consists of a simple unworked flake of triangular or trapezoidal section, varying in length from a couple of centimetres to more than sixteen (fig. 49). Its breadth is always less than 3 cm. This simple rectangular flake gave rise to a long series of implements. It might be brought to a point by flaking along the edges near one end, the working being always confined to the upper, i.e. the faceted face (fig. 50). In this form it probably served as a borer for piercing skins, wood &c. Sometimes one or

Neolithic material.

A. Stone objects.

1. Objects made by flaking.
a. Flint.

1. Knives.

2. Borers and scrapers.

even both ends were rounded off by small flaking on the top face and the implement became a scraper (fig. 48). Occasionally one end served as a scraper and the other as a borer.

3. Geometrical flints.
Rhomboid.

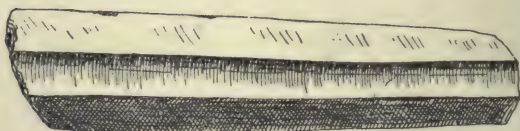
From the rectangular flake, too, is derived the whole series of so-called geometrical implements. The most important of these is the rhomboid flint, which is produced by cutting off a long flake by chipping two parallel lines



48



50



49

FIG. 48. Neolithic scraper (*grattoir*) of flint. Scale $\frac{1}{2}$.

FIG. 49. Neolithic flint 'rectangular' knife. Scale $\frac{1}{2}$.

FIG. 50. Neolithic flint borer. Scale $\frac{2}{3}$.

obliquely across it (fig. 51 *c* and *d*). The flakes so often found with a notch in one side are probably early stages of this process.¹ It is remarkable that this flint is almost always right-handed, that is to say, if it be laid with its plane side down and in a vertical position, the transverse edges run downwards from right to left. Exceptions to this are extremely rare (fig. 51 *c*). The rhomboid flint was apparently brought into Italy by the neolithic people

¹ *B. P.*, i, p. 2.

at their immigration, as it occurs in all the earliest hut-foundations of the peninsula. In Sicily and Sardinia it is as yet unknown. The use of this implement has never been ascertained, but it is thought by some to have served to arm a javelin or spear. Closely related to this is the trapezoid flint (cf. fig. 94), which, however, may belong only to the later part of the neolithic period, as we have no examples which can be proved to belong to the earlier stages. The hut-foundations of Vhò di Piadena and of the Vibrata Valley supply numerous examples, and the form continued in use during the eneolithic period. In

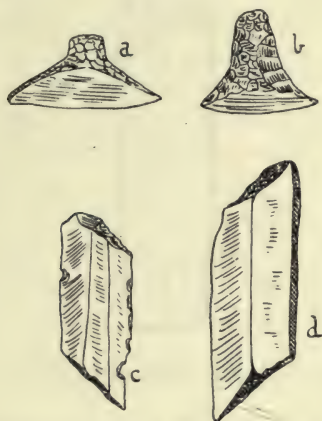


FIG. 51. Transverse arrowheads (?) and rhomboid flints. Scale c. $\frac{2}{3}$.

the same class must be placed the implement shaped like a segment of a circle, the chord representing the cutting-edge. This is found only in Central and Upper Italy, while a special form with a short tang projecting from the centre of the arc is limited to the northern lakes and the Trasimene district (fig. 51 *a* and *b*). This implement first appears in the later stages of the neolithic period, and lasts through the eneolithic and even into the early bronze age. Various opinions have been held with regard to the use of the trapezoid and segmental instruments. Castelfranco called them both 'arrowheads with transverse edge', and many consider them to have been used as javelin-heads.

These small 'geometric' implements are not peculiar to Italy. They occur in the neolithic hut-foundations of Belgium and South-East Spain, in the dolmens and burial-caves of Portugal and France, and in the Round Barrows of Great Britain.

4. Saws.

The so-called saws of the neolithic period are of two types.¹ The first type is very similar to the scraper of the *Moustérien* period (fig. 17), indeed it is probably a survival of the same form. It is worked on one face only, and is oval or segmental with a convex cutting-edge. This form



FIG. 52. Neolithic knife-saw (*coltello-sega*). Scale $\frac{1}{4}$. (*Bull. Pal.*)

occurs in the early neolithic huts of the Vibrata Valley. The second type is simply the rectangular knife, minutely flaked on one or both of the edges (fig. 52). The ends of the implement are either rough or pointed, squared or rounded off. This *coltello-sega* presents very much the appearance of a knife which has had its edge damaged by long use, but may be distinguished from this by the regularity of the flaking and the polished condition of the edge, due to friction. The rectangular and bow-shaped saws, flaked on both sides, belong more to the bronze age than to the neolithic, and are there described.

5. Arrow-heads.

The arrowheads may, in the light of recent research, be assumed to belong only to the later phase of the neolithic

¹ *B. P.*, xxii, p. 206.

period in Italy. In the earliest hut-foundations and cavern deposits it is quite absent. When, however, it does appear it takes an extraordinary variety of forms. It may be oval or almond-shaped, triangular, concave at the base, winged and tanged. The form with a single wing is rather rare, occurring in the Vibrata Valley and in the early bronze age pile-dwelling at Polada. It should be noticed that in Reggio-Emilia, in the Vibrata Valley, and near the Lake of Lesina the arrowhead is invariably lacking in those huts which have the appearance of greatest antiquity. Similar facts have been noticed in the Ligurian caves, where, moreover, the arrowhead is rare even in the later deposits. In Sardinia it occurs in rock sepulchres of late neolithic or eneolithic date, but in Sicily it is rare, and has not been found in graves. At San Cono, however, a number of arrowheads of triangular form, sometimes with concave base, were found, and two of the latter form occurred in the village of Castelluccio.

Even if there is any doubt as to the arrowhead, it is 6. Daggers. beyond dispute that the flint dagger was unknown in the earlier part of the neolithic period. It belongs more strictly to the eneolithic period, under which it will be more fully described. We have, however, certain graves of the late neolithic period, in South Italy especially, which have yielded flint daggers of two distinct types. Some are of the ordinary eneolithic kind, worked finely on both faces and finished by minute flaking on the edges. Others, however, are worked only on one face, the other face being left just as it was struck from the core.¹ Even on the upper face the work is often mainly confined to the edges and the original faceting is plainly visible. This rougher type of dagger is practically limited to South Italy, where, however, it is not uncommon. Up to the present no example of a flint dagger of any kind has been found either in Sardinia or in Sicily.

Speaking of the original neolithic flint industry as a whole, it may be said that its motto was economy of labour. Development of the flint industry. Among all the types of flint implement which can with

¹ *B. P.*, xxv, Tav, XII, XIII, and XIV.

certainly be attributed to the earlier part of the period, there is not one in which the flaking was carried out over the whole surface. The discovery of the use of prepared flint-cores had made this unnecessary, but it had also caused what must be admitted to be a set-back in flint-working. In early neolithic deposits there is no flint-work to compare with that of the palaeolithic period, except that of such stations as Rivoli or Breonio, where the palaeolithic industry was continued. In the later neolithic period, however, the art of minutely flaking the whole surface of the implement was revived, and produced flint daggers and arrowheads which for regularity and beauty are fit to compare with any of the palaeolithic products. Whether this improvement was a development within the country itself, or whether it was introduced from abroad we cannot say as yet.

b. Obsi-
dian.

The distribution of objects of obsidian in Italy is a question of great interest and importance.¹ This material was used in neolithic, possibly early neolithic, and eneolithic times, only just surviving into the bronze age. It is common in the manufactured form in Sardinia, Sicily, Pantelleria, Pianosa, Elba. In South Italy it occurs in the Grotta del Diavolo, at Matera, in the cave of Nicolucci near Sorrento, in the huts of Lesina and the Vibrata Valley, in the island of Capri and sporadically elsewhere. In Central and North Italy it is rarer, being found sporadically in the Marche, in Tuscany, in the Grotta all' Onda, in the Modenese, in the Ligurian caves, and in the early bronze age lake-dwellings of Lake Varese.

The raw material is found in Pantelleria and the Lipari Isles (Map I, 63), in Ischia and Procida, in the Pontine Archipelago (Map I, 56), in the Campi Flegrei and in Sardinia. Thus we have further evidence of the extensive trade relations which bound together the various parts of Italy even as early as the neolithic period. The obsidian found in flakes and cores at Matera seems, judging from its transparency and lustre, to be from Melos and not Italian. Chemical analysis alone can decide this point.

¹ Cf. *B. P.*, xxv, p. 218.

The implements of polished stone usually included under the term axes are in reality of three types. When both faces of the implement are convex and about equally inclined to the centre-plane the implement is probably a hatchet, and was set in a handle in such a way that the cutting-edge was in a line with the direction of the handle. If, on the other hand, one face is comparatively flat and the other convex, the implement is more probably an adze, and was set with its edge transverse to the handle. The distinction is shown by the side views in fig. 53 *a* and *b*. Finally,

2. Polished stone implements.
a. Hatchets, adzes and chisels.

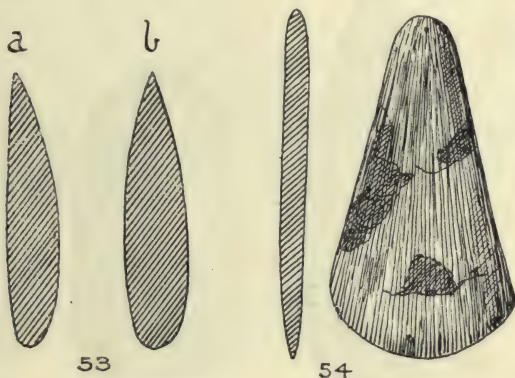


FIG. 53. Sections down central plane of (a) adze (*ascia*) and (b) hatchet (*accetta*).

FIG. 54. Flat celt of polished stone, Reggio. Scale c. $\frac{1}{2}$.

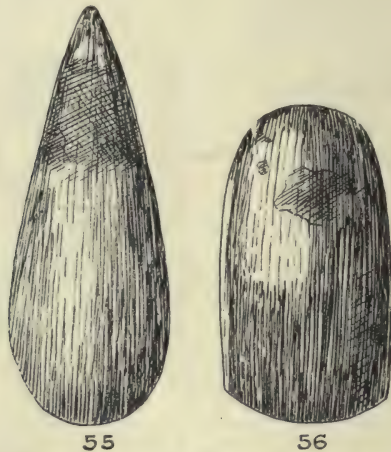
the very narrow examples, sometimes sharpened at both ends, can only be called chisels.

There is, however, no difference, except in the curve of the faces, between hatchets and adzes. Both may be oval, triangular, trapezoid or even rectangular, and the cutting-edge may be much curved, or almost straight (figs. 54–8). In length they run from about 4 cm. to 15, and in rare cases to 20.

In South Italy the prevailing type of axe is so thick as to be almost cylindrical (fig. 59). This form, usual in the Aegæan and in Greece, is naturally to be expected in South Italy.

The Italian axes differ greatly in the quality of the working. Technique.

In a few cases the whole surface is carefully polished, in many the cutting-edge alone is polished and the rest of the implement left rough. These polished axes were used in Italy throughout the neolithic and eneolithic periods, extending into the bronze age, when they are not rare in the lake-dwellings and some of the *terremare*. Apparently no development took place in the forms, and the examples of the eneolithic and bronze periods are indistinguishable from those of the neolithic.



FIGS. 55 and 56. Polished stone celts found near Bologna. Scale c. $\frac{1}{3}$.

Specially worthy of notice are a number of very small examples, of which fig. 60 is one of the largest. They cannot well have been used as axes for heavy and rough work, and may have been set in a handle as chisels. They occur in the Grotta all' Onda, in the Vibrata Valley, and in other parts of South Italy.

Material
for polish-
ed axes.

These polished axes are in some cases of local stone, such as sandstone, limestone and basalt, which were ill-adapted for this use ; in other cases they are of harder stones, jadeite, nephrite, diorite, chloromelanite &c., which must have been imported from other parts of Italy or even from abroad.

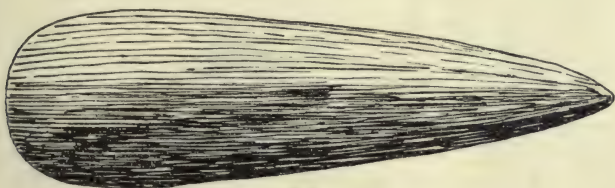
Its origin. The question of the origin of the supply of raw material

for these axes is a difficult one. It may be noted at the outset that, while axes of jadeite and chloromelanite are common in the peninsula, those of nephrite are rare. Exactly the opposite is true of Sicily, while in Sardinia axes of chloromelanite are as yet unknown.

Four main theories have been proposed with regard to the origin of these Italian axes.¹ Gastaldi suggested long ago that such rock might yet be found in the Alpine regions, while others believed either that the rock was imported continually from some common source in Asia, where it occurs, or brought into the country by the neolithic people

Is the material local?

Suggested importation from the East.



57



58

FIG. 57. Polished stone celt. Reggio. Scale c. $\frac{1}{4}$.
FIG. 58. Chisel of polished stone. Reggio. Scale c. $\frac{1}{2}$.

at their first coming. Others even thought that the weapons were imported ready made. Against the last must be set the fact that at Alba Cuneo and elsewhere in Europe proofs have been found of the working of the material on the spot. That the neolithic people brought the rock with them leaves unexplained the immense number of these implements, and their persistence into the bronze age, while against a common source theory is the fact that the Italian examples differ widely in chemical composition. Besides, the prevalence of nephrite in particular districts suggests the existence of several sources in Europe itself. Thus we are reduced to the probability that the material is more or less local. Nevertheless, up to quite recently, all attempts to find

¹ See Issel in *B. P.*, xxvii, p. 1.

these rocks in position in Europe in any quantity had failed. Nephrite was indeed found in pebble form in Switzerland and Styria, and in erratic blocks in Germany, while in Silesia it occurred in position. But the Styrian and Swiss examples are suspected of being the remains of neolithic axes, and Silesia is outside the area of distribution of implements of nephrite. Chloromelanite was,

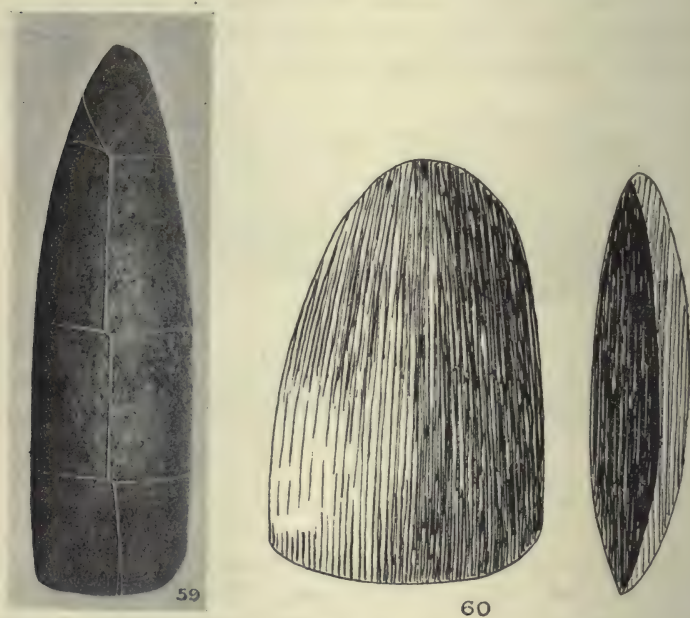


FIG. 59. Cylindrical stone celt from Magisano. Scale c. $\frac{3}{8}$.

FIG. 60. Small stone celt used as chisel, Vibrata Valley. Scale $\frac{1}{4}$. (Colini, *Bull. Pal.*)

until lately, not known in a raw state in any part of the world. Jadeite has for many years been known in the form of pebbles in Piedmont and Switzerland. However, in 1900, Franchi proved that jadeite and chloromelanite occurred in position in various parts of the western Alps and the Ligurian Apennines.¹ Moreover, he was able to show by chemical examination that the rocks used in the station of Alba Cuneo were

¹ *Atti del Cong. Int. di sc. stor.*, Roma, 1903, vol. v, pp. 357-71.

identical with those found in the Alps not far away. Thus the local origin of jadeite and chloromelanite in at least some parts of Italy is certain, though the same cannot yet be regarded as proved in the case of nephrite.

Among the more unusual objects of stone are the club-heads. These are sometimes disc-shaped with a broad hole through the centre, and the outer circumference sharpened.¹ The example given in Pl. II, fig. 14, is of polished green stone, probably jadeite, and was found alone near Bologna. Similar club-heads occurred in the cave of the Arene Candide and in that of Pollera, in the Vibrata Valley and at Alba Cuneo. These implements are by some considered to be bracelets (when the hole is large enough), or pendants, but exactly similar weapons are used to-day in South-east New Guinea.² In the Vibrata Valley occur 'club-heads' shaped like thick arm-rings. In some cases the hole is so narrow that they are almost certain to be club-heads (cf. Pl. II, fig. 14); others, however, might be arm-rings, for they resemble exactly the marble examples found on skeletons at Rössen in Saxony. The spherical and ovoid forms of club-head are more usual in Italy,³ being found in the Vibrata Valley, in the Ligurian caves, in Sicily and Sardinia. None of these types are peculiar to Italy, even the rare disc-type with sharpened edge occurring in Denmark and at Rössen in Saxony.

It is difficult to determine at what period the wedge-shaped axe with a hole for the handle (Pl. II, fig. 17) first appeared in Italy. An example from Vayes, in the valley of Susa, would appear to date it very early in the neolithic age.⁴ But this example was not obtained from a regular excavation, and, as the form is generally absent in early neolithic deposits, it is possible that it only made its appearance in the later stages of the period. The example figured was found near Bologna. The more

b. Club-heads.

1. Disc-shaped.

2. Spherical and ovoid.

c. Hammer-axes.

¹ See Colini in *B. P.*, xxix, pp. 164-6, notes 36-42.

² loc. cit., p. 165; Haddon, *Journal of the Anthropological Institute*, vol. xxx.

³ loc. cit., pp. 162-3.

⁴ *B. P.*, xxix, p. 5, fig. A.

developed types in which the head is separated from the body by a neck are mostly eneolithic.

There is also found in Italy a rounded wedge-shaped axe with no hole, but a furrow round the middle to enable a handle to be tied on with cord of some kind. Rosa gives an example from the huts of the Vibrata Valley.¹

d. *Brassards*.

At Alba Cuneo was found what is, I believe, the only neolithic example of the so-called *brassard* as yet known in Italy.² It is a rectangular slip of thin well-polished sandstone, 7.50 cm. in length, with a hole at each end. Such objects are usually supposed to have been fastened on the wrist to protect it against the recoil of the bow-string. It is, however, very uncertain whether the bow was known at Alba, as the so-called arrowheads are very dubious. These *brassards* are common in Italy in the eneolithic period, especially in Sardinia, and in the bronze age, when they were in use in the lake-dwellings.³ They are not uncommon in other parts of Europe, being found in Spain, England, Switzerland—where they are, however rare—and in the eneolithic graves of Bohemia.

B. Objects of bone.

As neolithic man was in the main a hunter he had large stores of bone always to hand. These served to supply him with large numbers of implements. But it cannot be said that bone-working reached at all a high level among the neolithic inhabitants of Italy.

1. Borers.

The most usual forms are the borer and the polisher. The first was obtained by merely pointing a small piece of bone, the joint end serving generally as a handle. Two fine examples from Breonio are shown in Pl. I, fig. 5.

2. Polishers.

The polisher was simply a flat piece cut from a larger bone and rounded at one end. It served, no doubt, for giving the fine glossy surface so usual on neolithic vases.

In the Ligurian caves, especially those of Pollera and Arene Candide, bone was used for other purposes as well as these. In describing these caves we noticed spearheads

¹ *B. P.*, xxxiii, Tav. XVII, fig. 7.

² *B. P.*, xix, p. 166.

³ Cf. *B. P.*, xxvii, Tav. VII, figs. 9, 10, 12.

arrowheads, daggers and knives of bone. These are, however, exceptions, and in general the most striking fact about the bone-working industry is the paucity of forms employed.

The most important section of the objects of earthenware C. Objects of earthenware is formed by the pottery. This has been very fully described in dealing with the several sites in which it is found. It remains, however, to add a few general remarks on the subject. I. Pottery.

In the first place, this pottery as we at present know it, is divisible into three great groups. The first may be called the southern group. It includes all that pottery of which the Stentinello ware is the best known example, that is to say, pottery ornamented with incisions and impressions made while the clay is still damp¹ (Pl. I, fig. 6). These incisions and impressions are usually made, not with the finger, or a rough piece of stick, but with instruments specially made for the purpose. There are great local differences in this ware. At Matrensa and Stentinello the incisions are filled with a white paste, and form quite complicated schemes. At Molfetta the schemes are simpler, the white filling is absent, and the so-called *tremolo* pattern (Pl. II, fig. 4) is very common. The distribution of this southern ware is as follows. In Sicily it occurs at Matrensa, Stentinello, in small quantities near Paternò, near Cafano, in the caves of La Seggia and La Scorosa near Syracuse, and in the Grotta Corruggi near Pachino. In Italy we find it at Molfetta near Bari, at Matera, in the Tremiti Islands, and in small quantities in the Ligurian caves. Three main groups. a. Southern group.

Finally, in the museum at Taranto are a few sherds found within the city itself, while several fragments with the *tremolo* pattern have been found in a cave in the Capo S. Elia in Sardinia.

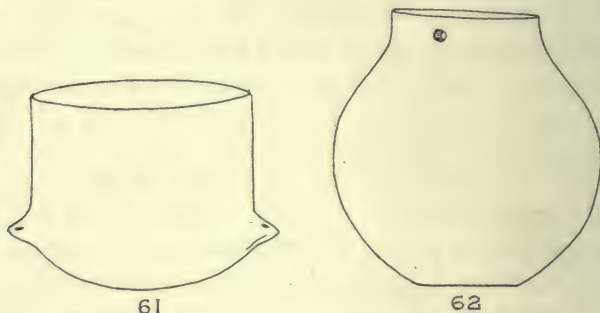
The affinities of this pottery with that of Crete have been noted in dealing with Sicily (p. 135). The Italian examples of the ware help to make this even more evident. At Affinities of the Southern pottery

¹ This criterion is not absolute. The finer incised ware at Matera, which in its designs is closely related to that of Stentinello, is incised after firing, fig. 30.

with that
of the
Aegean.

Matera was found a vase, ornamented in the Stentinello technique, reproduced in fig. 61 (after a restoration by Mayer). This is a well-known Aegean shape, occurring with very slight modifications in the cist-graves of the Cyclades, at Hissarlik, and in the neolithic burial of Hagios Nicolaos in East Crete.¹

At Molfetta were commonly found vases of the form shown in fig. 62. This type, including the holes in the neck, occurred among the pottery of the early *tholos* tomb at Haghia Triadha in Crete. At Molfetta, too, is found the



FIGS. 61 and 62. Neolithic vases of Aegean form from Matera. (Mayer, *Staz. preist. di Molfetta*.)

bowl with incurved rim so common in Hissarlik II, in the Cyclades and in the neolithic strata at Knossos.

b. North-
ern group.

Quite distinct from this group is what may be called the northern pottery. Here the ornament consists mainly of knobs and ridges of clay raised on the surface of the vase. These ridges are sometimes formed in moulding the vase itself (Pl. I, fig. 3), more rarely they consist of strips of clay added after the vase is complete; they are often pitted with the finger-tip, or cut into squares with a fairly sharp stick or bone. At other times there is no ridge but the vase is surrounded by a line of little pits, or its surface is pinched up into a number of knobs. This method of ornamentation betrays a taste utterly different from that of the southern ware, among which such types of adornment are unknown. It is true that even among the northern

¹ *B. S. A.*, ix, p. 341, figs. 1 a and 2 c.

ware incised work is found, as at Alba Cuneo and Rivoli, but it is of the simplest type, and shows no such ability in producing geometrical patterns as we see at Stentinello. The northern ware extends over the whole of North Italy, and as far south as the Valley of the Vibrata. It is indeed found at Molfetta, but in the later station, the pottery of the earlier settlement being of the southern type.¹

In the third type of pottery the ornament consists of incised bands and stripes arranged in various patterns over the vase (figs. 41, 154, and Pl. II, fig. 8). This ware appears to have entered Italy only towards the end of the neolithic period, and to have flourished during the succeeding period, the eneolithic, under which it is more fully described (p. 266). It succeeded southern pottery in the south and northern in the north. Thus it is found in Sicily at Moarda, Villafrati and elsewhere; in Italy at Matera, in the Grotta all' Onda and in Sardinia. It is often accompanied by the bell-shaped cup, and is generally spoken of as 'pottery of the dolmen type'.

But to return to the two true neolithic types. I have attempted to show above (p. 133) that the southern type represents a tradition totally different from that seen in the northern, being, in fact, closely allied to the neolithic wares of Crete and the Aegæan. This I tried to prove by pointing out a number of shapes and ornamental motives common to South Italy, Sicily and the Aegæan. The presence of similar pottery in Sardinia and Liguria is then perfectly natural, for we know from other evidence that both were in communication with the Aegæan at a very early period.

The northern ware, on the other hand, presents few points of contact with Aegæan pottery, and is far more closely related to the neolithic wares of Central Europe.

A few points are particularly worthy of note with regard to this northern pottery.

In the first place, it seems that from the very outset neolithic man in Italy was wont to mix the clay with small grains of quartz, in order to give it greater consistency, and to prevent it from cracking in the firing. Chierici, how-

c. *Band-keramik.*

Affinities of the two neolithic groups.

a. The Southern related to Aegæan pottery.

b. Northern pottery related to that of Central Europe.

Its nature.
1. The clay.

¹ Mayer, *Stazioni preistoriche di Molfetta*, Tav. VIII.

ever, notes that at Calerno (Reggio) this was not done. The pottery is always hand-made, and the degree of the firing very variable. Most of the vases are smoothed over the surface with a flat piece of wood, stone or bone, and some are coated with a slip of fine clay and then brightly polished.

2. Handles.

One of the most remarkable features is the development and variety of the handles. This distinguishes Italian neolithic pottery from all other wares. Often the handle is a mere knob, sometimes with a string-hole, which may be vertically or horizontally pierced, or we may have a small tongue of clay projecting from the body of the vase and taking various shapes. The handle may be formed by taking either a broad slip (*nastro*), or a cylindrical stick of clay (*bastoncino*), and bending this up to form a bow or an ear-shape, and then fastening it on to the vase vertically or sometimes, in the case of the bow-shape, horizontally. The handle *a canaletto* consists of a rather narrow hole bored partly through the wall of the vase, which is raised to a rounded knob at that point, while that *a tubetto* has the appearance of a small horizontal tube attached to the body of the vase (cf. Pl. II, fig. 10). Finally, the ordinary broad ear-shaped handle may end in a small knob or an upright cylindrical projection of considerable height. This last, which occurs in the Reggian huts,¹ is the *ansa cilindro-retta*, which became so common in the huts of the bronze age in that locality (Pl. VI, fig. 5).

3. Ornament.

The decoration has already been sufficiently treated. It should be noticed that when incision occurs it is generally of the simplest kind, as at Alba and Rivoli. Even in the Reggian huts,² where it is more developed, the schemes are simple, parallel straight lines, concentric semicircles, and once a row of false running-spirals.

4. Shapes.

a. Ovoid cup.

A few of the shapes deserve special note. The simple ovoid or hemispherical cup has a wide distribution in Italy (fig. 24). It is remarkably common in the Ligurian caves, and occurs also in the hut-dwellings of Reggio, in both stations at Molfetta, and also in Sicily. Its shape, ill-adapted for standing, probably caused it to die out before the bronze

¹ B. P., iii, Tav. I, fig. 8.

² B. P., iii, Tav. I.

age. It has numerous parallels among the *Bandkeramik* of Central Europe, and is found with incised spiral decoration (*Bogen- und Spiralkeramik*) at Rössen and Flomborn in South Germany and at Podbaba and elsewhere in Bohemia.

The vases with quadrangular mouth are, in Italy, peculiar to the Ligurian caves, where, however, they are not rare (fig. 21). Outside Italy they have, I believe, only been found at Tordos in Transylvania, and at Sesklo and Dimini in Thessaly.

b. Square-mouthed vase.

The *bacino*, a basin set on a high conical or trumpet-shaped foot, is not common in Italy. Colini records an example from the Vibrata hut-villages, and a broken specimen from Alba Cuneo is preserved in the museum at Rome. The Ligurian caves have furnished examples in which the foot is almost as large as the upper part (fig. 20). The *bacino* is a very early form in the Mediterranean, whence it probably extended to Sicily, where it became very common in the First and Second Siculan periods, appearing even in the neolithic period at Matrensa. There are a few examples in Italy in the bronze age, and in the early iron age the form became very common in cemeteries of the Este, Golasecca and Novilara type. The Moarda type, which, strictly speaking, is not a *bacino* at all, (fig. 43), occurs in the Grotta all' Onda, in the huts of Reggio, in the cave of Gabrovizza near Trieste, and continues in use during the eneolithic period, for example at Remedello. It has an exact parallel among the older *Winkelbandkeramik* of South Germany, especially at Worms.

c. High-footed basin.

Finally, we must notice the so-called *bottiglia*, a flask-shaped vessel.¹ In its simplest form it consists of a spherical body with a cylindrical neck, which varies in height. The body is, however, often flattened and tends to develop a keel around the middle. Both shapes are found in the Reggian huts (figs. 32 and 33), while one or the other appears at Alba Cuneo, in the Ligurian caves, in the island of Pianosa² (an ovoid specimen), at Camigliano (Pl. II, fig. 7), and in several eneolithic tombs (Pl. II, figs. 10, 11, 12). The *bottiglia*

d. Flask.

¹ Cf. Colini in *B. P.*, xxix, p. 178 sqq.

² Chierici, *Antichi monumenti della Pianosa*, Tav. VII, fig. 7.

occurs in Spain at El Garcel and Cueva de los Toyos.¹ In Central Europe it occurs in Saxony along with *Schnurkeramik*. From its wide distribution Colini judges this form to have been part of the old heritage possessed in common by the neolithic race before they entered Europe.

2. Clay figurines.

Apparently the making of clay figurines, or indeed the representation of animal forms in any medium, was practically unknown to the neolithic Italians. Indeed, the clay quadrupeds of the *terremare* are virtually the first manifestations of the plastic art in Italy. In two places, however, we do find clay figurines even in the neolithic age, at Stentinello in Sicily, where there were two fragments of animals and a human torso,² and in the Arene Candide cave in Liguria,³ where two rough human figures occurred. It is possible that the Sicilians of the neolithic period brought the plastic art with them into Italy, while the Italians of North Italy, who were probably another branch of the same race, did not. This would explain the total absence of figurines in Italy except for the two Ligurian examples, which I believe to be due to trade with or influence from the Aegæan.⁴

3. Pintaderas.

The *pintaderas* or earthenware stamps for colouring the skin with red ochre have already been described (fig. 25). They occur in the following localities in Italy; in the Ligurian caves, where they are common; in a hut at Campeggine (Reggio); near Bari (one example of uncertain provenance).⁵ Outside Italy they are known in the Canary Islands, in the eneolithic settlement of Priesterhügel near Brenndorf, and in the *tumuli* of Phrygia. In the museum at Vienna is a round *pintadera* from the Theresienhöhle near Duino in the Austrian Küstenland.⁶ A probable *pintadera* was found at Vinča in Servia⁷ and another, of bone, in a tomb in Derbyshire along with fragments of red ochre.⁸

¹ Siret, *Les premiers âges du métal dans le Sud-Est de l'Espagne*, Tav. II.

² *B. P.*, xvi, Tav. VI, figs. 9 and 14. ³ Issel, *Liguria geologica e preistorica*.

⁴ Palaeolithic (?) steatopygous figurines are said to have been found in the Balzi Rossi caves. See *B. P.*, xxxiv, pp. 68-9, fig. I. See also Evans, *Proceedings of the Brit. Assoc.*, 1895, pp. 834-5.

⁵ Mayer, *Stazioni preistoriche di Molgetta*, Tav. III, 19.

⁶ Hoernes, *Urgeschichte der bildenden Kunst*, p. 287, fig. 100.

⁷ Vassits, *Der prähistorische Fundort Vinča in Serbien*, p. 182, Taf. IV, fig. 23.

⁸ *Man*, 1906, 44.

CHAPTER VII

PROBLEMS OF THE NEOLITHIC PERIOD

IN treating the arrowhead in connexion with the hut-foundations, we saw that this weapon gave us a criterion for dividing the neolithic age into an earlier and a later period, since in the oldest settlements the arrowhead is never found. Orsi, writing in 1882, gave a scheme in which the neolithic period was divided into three sub-periods.¹ The first was that of the Reggian huts, marked by the presence in large numbers of the rhomboid flint, and the absence of arrowheads and of all flints worked in minute flakes. The second was that of the stations in the open, marked by the appearance of the dog, the arrowhead, the toothed saw of flint and the art of fine flaking. The third period, just later than or even in part contemporary with the second, was that of the lake-dwellings of Lombardy.

I am not prepared to accept this division in its entirety. In the first place, the Lombard lake-dwellings are rather attributable to the eneolithic and bronze ages than to the neolithic. In the second place, the existence of 'settlements in the open' in anything like large numbers is more than questionable. But although we may quarrel with the name of the period, the facts on which the division is based are highly valuable and may be accepted as they stand.

Can we, however, arrive at a hard and fast division by any other route? Unfortunately this is not possible. It has already been shown that the neolithic stations of Sicily can be divided into two groups, an earlier and a later. The earlier includes Stentinello and Matrensa, and is distinguished by its stamped and incised pottery; the later includes the caves of Villafrati and Puleri and the settlement at Moarda; its pottery is of quite a new type—a kind of *Bandkeramik*—and its forms include the *bicchiere a*

1. DIVISIONS OF THE NEOLITHIC PERIOD. Orsi's periods.

This division not satisfactory.

¹ B. P., viii, p. 216

Colini's
periods.

campana. Now Colini makes a similar division of the neolithic pottery of the mainland.¹ His first group, chronologically parallel with that of Stentinello and Matrensa, includes that of the huts of Emilia, Fano, Vibrata, and Alba Cuneo, together with that of the Ligurian caverns. His second group is represented in the Grotta all' Onda, at Santa Cristina, and at Ca' di Marco, and includes the *Bandkeramik* and the *bicchiere a campana*.

This division is not the same as that of Orsi. Two of the three stations representative of Colini's second group are not neolithic at all, but early eneolithic, and one is led to suspect that the *Bandkeramik* and the *bicchiere a campana* reached Italy only at the very end of the neolithic period, and that the pottery of which they form a part reached its highest development only after copper had become known. In other words, when Colini's second period began Orsi's second period was probably somewhat advanced, and the arrowhead and the finely-flaked objects of flint were already in use. It is true that the example of the *bicchiere a campana* at Villafrati in Sicily seems to belong to the neolithic period there, but this proves nothing with regard to the Italian examples. It is probable that the period represented by Villafrati and Moarda is parallel to the end of the neolithic and the beginning of the eneolithic period on the mainland.

Sub-division misleading.

A period of gradual advance.

The result of these comparisons seems to be as follows. The neolithic period in Italy is a period of advance and not of rest. Between the arrival of the neolithic folk in the country and the appearance of metal, the flint industry continued to develop. The advance was probably gradual, and though we may speak of early and late neolithic, it is impossible to draw a definite line of separation. What is certain, however, is that settlements in which arrowheads and minutely-worked flints occur are comparatively late. Those in which we find *Bandkeramik* are probably on the limits of the eneolithic period, if not entirely within it.

2. OF
WHAT
RACE

Having studied the remains of the neolithic period it is now natural to ask to what race they are to be attributed,

¹ *B. P.*, xxx, p. 157.

or whether we are even able to connect them with a definite people. WERE
THE NEO-
LITHIC
PEOPLE?
An invad-
ing race.

In the first place, everything points to the fact that, with a few exceptions, the stations we have examined are due to a new race which entered Italy at the end of the palaeolithic period. It will be remembered that in the palaeolithic age man in Italy lived in caves or in the open, was ignorant of the arts of making pottery and of polishing stone, and, as far as we can see, had no fixed rites in connexion with the burial of the dead. At a certain point all this is suddenly changed. A period begins in which men live sometimes in caves, more often in half-subterranean huts. They are no novices in the art of pottery-making, for they have discovered that the clay fires better if mixed with small grains of sand or gravel, and they produce forms which are far from rudimentary. They not only know how to polish stone, but they employ special kinds of green stone not used in palaeolithic times, and their most general implement is an axe or adze which takes certain definite forms never found among the palaeolithic flint axes. They have definite and fixed rites in connexion with the burial of the dead, inhuming the body in the contracted position, lying on one side, in a grave dug in the bare earth. Finally they are a pastoral people, whereas the palaeolithic inhabitants lived by hunting the wild beasts which shared the country with them. Break
between
palaeo-
lithic and
neolithic
periods.

But we may go further than this. With the exception of such stations as Breonio and Rivoli, which are probably due to survivors of the palaeolithic stock, the neolithic settlements contain no forms common to them and the palaeolithic deposits, nor even forms which have obvious palaeolithic prototypes in Italy. In fact, between the palaeolithic and neolithic periods there is a complete break.

Now change in any given district may be due to internal development, to trade relations with other districts, or to the immigration of new people. In the first two cases the change must be gradual, old forms must survive or we must be able to see the stages by which they passed into the new. When nothing of this sort is perceptible, when the break is complete, as it is in Italy, we can only decide that Possible
causes of
this
break.

Immigra-
tion the

only possible explanation.

the third cause of change was at work, i. e. that an immigration took place. This immigration may not have been the work of a year, or even of a century, nor need it have all been from one single direction. Nothing is more certain, however, than that it did occur, and that in the caverns of Liguria and the hut-foundations of Reggio Emilia it left some of its earliest traces. The newcomers did not completely efface their predecessors. We do not know what parts of the peninsula were inhabited at the moment of their arrival. However this may be, it seems probable that the old palaeolithic folk were suffered to live on, or at least succeeded in living on, up among the mountains around Verona, in the Vibrata Valley, and on the Gargano promontory.

Origin of the newcomers.

Assuming, then, the immigration of a new people, can we discover the direction from which they came, or any name by which they may be known?

Method of attacking this problem.

In order to decide this question it is necessary to co-ordinate the results of archaeology, anthropology and philology. Those who desire to gain an acquaintance with all the aspects of the question should consult Modestov's *Introduction à l'Histoire Romaine*, chapter iii, where it is very fully treated. Here the archaeological side of the question must take first place, though we shall have to ask whether our results agree with those arrived at by the other sciences.

A. Evidence of archaeology.

The *Ligures*.

The district known in modern Italy as Liguria is a narrow strip of country bordering the Bay of Genoa. In Roman times Liguria was more extensive. It reached on the North as far as the Po and included portions of what are now Piedmont, Lombardy, Emilia and Tuscany. It was inhabited by the *Ligures*, a race whom the Roman writers agree in calling *antiqua*.¹ The Greek geographers give to the *Ligures* an even wider distribution than this, for they place them also in the South-East of Gaul. Another people characterized as 'ancient' by the old writers are the *Iberi*, who were the early inhabitants of Spain and Portugal. There was, however, some confusion between the names *Iberi* and *Ligures*. Sometimes the people of Spain are included among

¹ Cf. Livy, v. 35; Pliny, *N. H.*, iii. 17 (21), 123.

the Ligures,¹ sometimes the Rhone is the boundary between the two peoples, sometimes the inhabitants of the country between the Rhone and the Pyrenees are a mixture of both.² But the general idea we get from the various confused passages is that the *Iberi* are for Roman and Greek writers the earliest inhabitants of the Spanish peninsula, as the *Ligures* are of the Italian.

Can we then give the name of *Ligures* to the invaders who were brought to Italy the neolithic civilization, that is to say, were the people of the caves of Liguria and of the hut-foundations the ancestors of those known to the Romans and Greeks as *Ligures*. It seems probable that they were. We have seen that Liguria itself was one of the great strongholds of the neolithic civilization, and we shall see later that Liguria was a part of Italy which was practically unaffected by the invasions which revolutionized Italy at the beginning of the bronze age. Diodorus Siculus³ gives an account of the primitive state in which the Ligurians of the mountains were still living even in his time :

νυκτερεύουσι δ' ἐπὶ τῆς χώρας σπανίως μὲν ἔν τισιν εὐτελέσιν ἐπαύλεσιν ἢ καλιαῖς, τὰ δὲ πολλὰ ἐν ταῖς κοίλαις πέτραις καὶ σπηλαίοις αὐτοφνέσι καὶ δυναμένοις σκέπην ἱκανὴν παρέχεσθαι.

This testimony supports the archaeological evidence in proving that the true neolithic *Ligures* were still to be found in Liguria in the historic period. In other words, we have strong evidence for asserting that the people who invaded Italy at the end of the palaeolithic period was that afterwards known as the *Ligures*. That they were in historic times chiefly, though not necessarily wholly, confined to Liguria need cause no surprise, for we can in the bronze age observe the causes which hemmed them within these limits, namely, the invasions of the new folk from the North.

Let us then decide to call the neolithic folk of the Ligurian caves or the Emilian hut-foundations *Ligures*, or, in its modern Italian form, *Liguri*. We may now proceed to ask whether there are any data for determining the direction from which these people came to Italy, limiting ourselves

Are the
neolithic
people
Ligures?

Whence
did the
Liguri
come ?

¹ Strabo, C 92.

² Scylax, *Peripl.*, ed. Didot, i, p. 17.

³ iv. 20 ; v. 39.

for the moment to the inhabitants of the Ligurian caves and the Emilian huts, without making any assumption as to the distribution of the *Liguri* in other parts of Italy.

Non-Mediterranean shells in Italy.

Significance of this.

In a hut-foundation at Rivalentella, in the Reggio district, was found a fragment of one valve of *Meleagrina margaritifera*, the pearl oyster. This is not a Mediterranean shell at all, but it is found in the Red Sea and the Indian Ocean. Its presence in a hut-foundation in the heart of Italy is a fact the significance of which cannot be over-estimated. Of course it is just possible that it arrived there by trade, but in that case it is remarkable that, if it was an object of trade, no other example has been found, and that, moreover, no shell from the same seas as this has appeared in the huts. Indeed, Ströbel is not unreasonable when he suggests that this shell was originally an ornament brought by *Liguri* into Italy at the time of their immigration from somewhere in the East, and afterwards preserved with care as being now a rarity.¹ But, even if we find this hypothesis too dangerous, the presence of this shell at least proves that the *Liguri*, even at the time of their earliest appearance in Italy, were already in communication with the South-East.

Other foreign shells in Italy.

Among the shells found in the Ligurian caves are many which do not inhabit the Bay of Genoa. The *Coralliophila lamellosa* is, for example, a native of Sicilian waters, while the *Mitra oleacea* is not known in the Mediterranean but belongs to the Indian Ocean.

These facts do not by any means prove that the *Liguri* came from the African coast of the Mediterranean or from the Indian Ocean; they do, however, suggest that in searching for their earlier home we should look carefully in that direction.

The neolithic people in Europe a single race. Evidence for this. a. Use of red ochre.

But we still need further evidence. In describing the neolithic remains in Italy we have called attention to the use of pigments for adorning the person of the living, or as a part of the funeral provision of the dead. In the Ligurian caves the dead were sometimes laid in a stratum of oligist iron, while in some cases a piece of red ochre was set by their side, or the skeleton was partially coloured red. In the eneolithic burial at Sgurgola, described on

¹ B. P., iii, p. 78.

page 194, parts of the skull were coloured red, and similar facts were observed at Mondello¹ and at Villafrati ai Colli, near Palermo; while at San Cono, in the province of Catania, the bottom of the grave was strewn with a red powder. There are ample proofs that the use of these pigments was not limited to the burial of the dead. In the Ligurian caves were found pieces of ochre together with stones still showing signs of having been used to grind them, and similar discoveries were made in the caverns of Felci in the island of Capri, of San Canziano near Trieste, and of San Bartolomeo in Sardinia. Moreover, in several of the Ligurian caves were found *pintaderas*, objects of earthenware used for stamping patterns in colour on the skin. A *pintadera* was also found in the huts of Campeggine, near Reggio, and another near Bari in Apulia.

This use of coloration is not limited to Italy. *Pintaderas* Use of are known in the Canary Isles, in the Küstenland, in the *pintaderas* not con- eneolithic settlement of Priesterhügel near Brenndorf, and fin- in the *tumuli* of Phrygia. Colini has given a long list of ed to Italy. instances outside Italy, in which the use of colours, especially red ochre, has been ascertained.² This list includes the provinces of Dordogne in France, Moravia, Brandenburg, Bohemia, the Crimea and the banks of the Dnieper, the neolithic tombs of Worms, of Chamblandes near Lausanne, the eneolithic tombs of Lengyel in Hungary, and the necropolis of Campo Real near Seville. In some of these cases the dead were laid in a layer of peroxide of iron, in others the red colour was applied to the skeleton after the flesh had disappeared, while in the last case vases of red ochre accompanied the remains. In the dolmens of Portugal pieces of various red colouring matters were found, and in the caves of the same country such pieces were found together with stones for grinding them. In the neolithic stations of Spain and the hut-foundations of Belgium red pigments have come to light, and the cist-tombs of the Cyclades have yielded pigments (blue, however) contained in tubes of bone, and vases stained with them inside.

Thus we find that the custom of colouring the body,

¹ *Zeit. Ethn.*, xxxv, p. 1023.

² *B. P.*, xxiv, p. 244, note 103.

b. Red-ochre in burials.

usually with red pigments, is not limited to Italy, but is common to the neolithic inhabitants of a considerable part of Europe. This in itself is a remarkable fact, but it becomes more significant when we note its use in connexion with the dead. Even in neolithic times burial rites were very sacred, and they were the last thing which a people would be liable to change. This being so, it is probable that the existence of this custom among the various neolithic peoples of Europe points to something more than trade relations, it points to affinity of race. In fact the archaeological evidence seems to show that the neolithic civilization appeared suddenly in Europe, brought by the immigration of a new race. This race must have penetrated into most parts of Europe and assumed there local peculiarities, but of its original heritage it invariably preserved some vestige. If we can show that the *Liguri* were a branch of this great race we shall have advanced a step towards the solution of our problem, for the movement of the *Liguri* into Italy will become a part of much vaster movements of a new race into many parts of Europe.

Further evidence from burial customs.

We have already seen that the use of pigments was common to the neolithic peoples of most parts of Europe, and we have next to notice three burial customs of the neolithic Italians, which were by no means peculiar to them, namely, the burial in the contracted position, the use of secondary burial or of *scarnitura*, and the intentional breaking of the objects forming the funeral furniture.

c. Contracted burial.

Burial in the contracted position seems to have been practised by the neolithic peoples in almost every part of Europe and even elsewhere. In all cases there is much variation in the exact posture; sometimes the body is squatting in a vertical position—the so-called embryonic posture; at others it is contracted, but laid on one side; or, finally, the knees and elbows are just slightly bent. Colini gives a very full list of examples outside Italy, from Russia, Bohemia, Hungary, Prussia, Belgium, Switzerland, Scandinavia, France, England, Spain, Portugal, Algeria and Egypt.¹ To this we may now add Crete.² In Italy

¹ *B. P.*, xxiv, p. 240, note 100.

² *B. S. A.*, ix, p. 354; x, p. 202.

we have seen examples of this in neolithic times, and it is also the usual custom in the later cemeteries of the same race at Remedello and elsewhere. On the Adriatic slopes of Italy and in the South, where the neolithic people continued to live even in the iron age, the custom was still preserved.

The intentional breaking of objects deposited with the body is another feature common to all, or most, of the European neolithic peoples. In most cases the body is provided with a rich provision for the next world, and as a rule the objects are placed in an orderly manner, each having its allotted position about the skeleton. It is not always possible in the case of objects found broken in a tomb to say whether the breakage was intentional or not. There are, however, cases among the neolithic tombs of Italy in which it is beyond all doubt that the objects were broken purposely before being laid in the grave. This rite is also observed among the neolithic people elsewhere in Europe. In France, and especially in the dolmens of Morbihan, the finest polished axes have been found broken in two or more pieces. When the hardness of the stone—usually jadeite—is remembered it is evident that the breakage cannot be due to natural causes. In the eneolithic graves of Spain flat axes of copper are found broken in two pieces, and the piece containing the cutting-edge is sometimes missing.

d. Breaking
of objects
at burial.

Finally, it is certain that some of the bodies at Remedello, in the Ligurian caverns and elsewhere, were laid in their present resting-places only after the fleshy parts had disappeared, and the body had become a skeleton. This means either that the soft parts had been artificially removed (*scarnitura*), or that the body had been for a time laid in a temporary tomb, perhaps in the open air, and afterwards removed to the final grave (secondary burial). Only in this way can we explain the presence of red paint applied to the bones themselves as at Sgurgola, and the disconnected condition in which the bones sometimes occur in the graves, as, for example, in the second skeleton of the sixth cave of the Balzi Rossi. This rite also occurs in Sicily, Sweden,

e. Second-
ary burial.

in the dolmens of Denmark, in the Long and Round Barrows of Great Britain, in the Crimea, in the dolmens of Algeria, possibly in France, in the *kurgans* of the province of Kiev in Russia, in Switzerland, in the Nile Valley, and at Palai-kastro in East Crete.¹

Liguri a branch of a great European race.

Thus the four chief rites connected with burial are held in common by practically all the neolithic peoples of Europe. Were the resemblances merely superficial we could infer little or nothing, but here we have similarities connected with the religious ideas of the peoples. We cannot, therefore, avoid the inference that all these neolithic peoples of Europe were closely related; in other words, that they originally belonged to one vast race, and that these burial customs which they have in common are part of their original heritage.

Insufficiency of archaeological evidence.

How far, then, has the archaeological evidence taken us? We have seen that at the end of the palaeolithic period a new race, bearing with them a highly developed civilization, suddenly entered Europe, and gradually penetrated to almost every part of the continent. This race perhaps also inhabited Crete, Sicily, the Cyclades, Algeria and the Nile Valley. But here we are at a stop, for archaeology cannot tell us yet where was the original home of this race. Since, however, we have no trace of the evolution of this high civilization in Europe itself, we are forced to look either to Asia or Africa, and the evidence of the shells affords the hope that in one of these directions we may meet eventually with success.

B. Evidence of anthropology. Sergi's theory.

Archaeology having failed us we must seek the aid of anthropology. It was, I believe, in 1892 that Professor Sergi of the University of Rome first made public his theory of the 'Mediterranean Race', and in 1895 appeared his *Origine e diffusione della stirpe mediterranea*. The chief points of the position which he endeavoured to establish are, as given in his preface, the following:

'1. The primitive populations of Europe after *Homo Neanderthalensis* originated in Africa; these constituted the entire population of neolithic times.

¹ *B. S. A.*, viii, p. 292.

‘2. The basin of the Mediterranean was the chief centre of movement whence the African migrations reached the centre and the north of Europe.’

With the rest of his conclusions we are not here directly concerned. His method is strictly anthropological, and consists in measuring the skulls of representative numbers of the races concerned, and, more particularly, noting their shape. Prehistoric skulls were used where possible, and where these were not obtainable more modern specimens were substituted. It was found that among the neolithic peoples of the Mediterranean, both on the European and African side, certain fixed types of skull-form predominated. The three most important of these forms are the ellipsoid, the ovoid, and the pentagonoid; less usual are the platycephalic and the cuneiform. So marked is the predominance of these fixed forms that Sergi concludes that all these Mediterranean peoples belong to a single dolichocephalic race which he calls ‘The Mediterranean Stock’. This race consists, for him, of four main branches,¹ the Iberians in Spain, the Ligurians in Italy, the Pelasgians in Greece and Asia Minor, and the Libyans along the African coast and in the Nile Valley.

Sergi next asks where the original home of this population is to be found, and, after pointing out the difficulty of speaking with anything approaching certainty, he suggests that it lay somewhere in East Africa.² This he founds upon the fact that the Hamitic peoples of Africa still possess the cranial and facial characteristics of the Mediterranean race. Indeed, one great branch of them including the Berbers and Guanches remains even now the Mediterranean race of Africa. The other branch, which includes the modern and ancient Egyptians, the Abyssinians, Gallas and Somalis, may, Sergi thinks, still be living close to the original home of the whole race, which he had at first been inclined to place in the region of the great lakes, though he is equally ready to admit that it was possibly in the Sahara. In both these regions remains of the palaeolithic period have been found, and in the present state of the

¹ *The Mediterranean Race*, English ed., p. 33.

² *op. cit.*, p. 43.

evidence he is not prepared to decide between the two, or to deny the possibility of other alternatives.

Is Sergi's theory in harmony with the archaeological data ?

No one would be more ready than Sergi himself to admit that it is impossible in the present state of knowledge to speak with certainty on the question of origin. It is interesting to notice that Sergi's theory receives some confirmation from the presence of shells peculiar to the Indian Ocean in the neolithic settlements of North Italy, a fact which has already been dealt with in full. Further evidence, too, appears to be accumulating. Dr. Duncan Mackenzie, in the second part of his article on Cretan Palaces, has drawn attention to the fact that the loin-cloth costume of the Cretans as seen on the Petsofà figurines and in the Knossos frescoes must be a survival among a people who came from a hotter climate. He points to parallels in Egypt and among the bronze figures of prehistoric Sardinia.¹

Conclusions.

Thus, on the whole we may say that archaeological and anthropological evidence when taken in conjunction suggest the following probabilities :

1. The neolithic inhabitants of Italy were of the same stock as those of the other parts of Europe, and of North Africa, and Asia Minor.

2. Their original home possibly lies in Africa.

3. These people were dolichocephalic and practised inhumation.

By what route did the neolithic race enter Italy ?

Assuming an African origin—which is possible—can we discover by what route these people entered Italy ? Sergi suggests that the African peoples invaded Europe by three routes. From Egypt, before Egypt was known to history, they passed over to Greece by the islands, perhaps first of all Crete. From Numidia they crossed into Sicily, Sardinia, Southern, Central and Northern Italy, and Southern France ; by Gibraltar they invaded the Iberian peninsula. Thus, according to Sergi, the *Liguri* invaded Italy and Sicily direct from Africa, though whether they all passed through Sicily he does not definitely tell us. Modestov² supposes that both *Liguri* and *Iberi* entered Europe by the Strait of Gibraltar at a time when there was practically

Modestov's theory.

¹ B. S. A., xii, pp. 233–49.

² *Sur l'origine des Sicules*, pp. 80 sqq.

no distinction between them. One branch of this Ibero-Ligurian race did not stay in Spain, but spread into France and over the Alps into Italy, where it occupied by degrees the whole peninsula. The neolithic inhabitants of Sicily, however, are, for Modestov, not *Ibero-Liguri*, but a branch of the same great stock who had crossed over from Africa into Sicily before the island was separated from Tunis by so wide a stretch of sea as it is to-day.¹

At present we are hardly in a position to say whether either of these hypotheses is correct. There is, however, one point which can be made certain, and that is that between the earliest neolithic civilization of Italy, North and Central, on the one hand, and that of South Italy and Sicily on the other, there is a very wide difference.

Possibility of two routes.

The earliest neolithic stations known to us in Sicily are those of Stentinello and Matrensa, while as typical of the earliest neolithic period in Italy we may take the Ligurian caves and the Reggian hut-foundations. Between these two groups may be observed the widest differences. In the first place, the forms of stone weapons in the two groups are very different. The typical rhomboid flint of North Italy is unknown in Sicily, and in the latter place the axe is often made of basaltic rock and not of green stone, such as was used in North Italy. At Stentinello the green stone axe was not found at all; at Matrensa some few examples were found, to judge from their presence in the museum, though until the finds are published we cannot say in what stratum they lay. It must be also noted that the stone celts of South Italy are usually of the cylindrical type, a form common in the Aegaeon and rare in North Italy. But, more important than this, the pottery of the two districts is totally distinct. In Sicily the ornamentation consists of impressed and incised work carried out while the clay is still damp, and sometimes produced by mechanical means. We have already described this ware in full and pointed out certain similarities in the designs to those used in the neolithic pottery of Crete. In North Italy, on the other hand, impressed work is rare.

¹ *Introduction &c.*, p. 134.

The examples in Liguria are almost certainly imported from the South, while the specimens from Reggio show only a few leaf-shaped impressions and have not the remotest resemblance to those of Sicily. On the other hand, we find in North Italy a type of ornament which consists in applying to the surface of the vase thin strips of clay in relief. These strips are sometimes left plain, at others they are pitted with the finger or notched with a sharp or blunt implement. This is a method of ornament quite unknown to the Sicilians of Stentinello and Matrensa. Thus we have two distinct types of pottery, the northern and the southern.

Two
branches
of the
Mediterranean
stock in
Italy.

From this it seems to me probable that in the neolithic people of Italy we ought to see two distinct branches of the same stock, who entered the country by different routes and perhaps at slightly different times. The northern branch, the people of Liguria and Reggio-Emilia, may safely be called *Liguri*, though there is no evidence to show positively whether they arrived in Italy by sea or whether they came through Spain.

The southern branch, who almost certainly arrived in Sicily and South Italy by sea, must for the present, in view of the controversy yet to be dealt with as to the names *Siculi* and *Sicani*, be distinguished by some such term as 'Proto-Sicilians' or 'Neolithic Sicilians'. Whether this branch passed into South Italy by way of Sicily is uncertain and immaterial, but the one supposition which we can rule out is that they were a Ligurian branch, who, after settling in Liguria and Reggio-Emilia, passed over into Sicily and left the remains known to us at Matrensa and Stentinello.

Distribu-
tion of
each.

Between these two great branches of the Mediterranean race there must have been some dividing line in Italy, though it need not have been well defined. At present we cannot say where it lay, but it is probable that it was well to the South, and I do not take the legend of *Siculi* in Latium as proving that the southern folk, whom I have called neolithic Sicilians, ever reached as far north as Latium. This point, however, will be examined later. It is quite possible that at the Pulo di Molfetta we have the crossing of

the two currents, for in the earlier station we have Stentinello ware, ornamented with incisions while damp; and in the later we have relief-strip ware, which in the earlier was missing.

In certain settlements, which beyond doubt belong to the neolithic period, are found implements of flint and

3. PALAEO-
LITHIC
SUR-
VIVALS

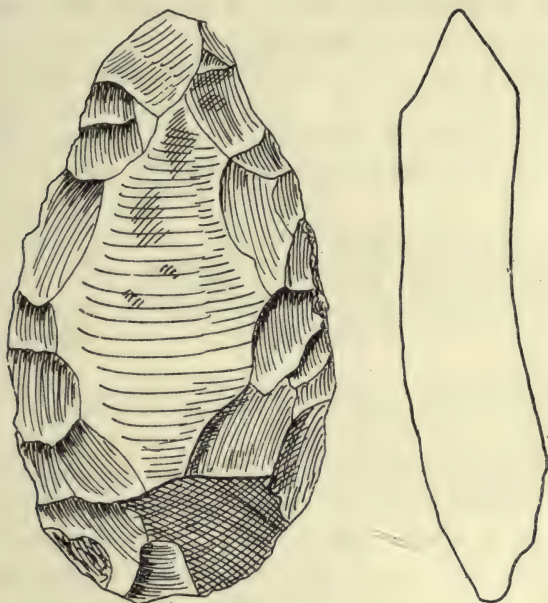


FIG. 63. Almond-shaped lancehead(?). Derived from *Chelléen* type.
Scale $\frac{1}{4}$. (Colini, *Bull. Pal.*)

other stone which have a decidedly palaeolithic aspect, IN THE
or which have the appearance of being derived from palaeo- NEO-
lithic types. Such settlements are the rock-shelters of LITHIC
AGE.
Rivoli and Breonio, and the hut-villages and workshops
of the Valley of the Vibrata, of the Lago di Lesina, and of
Macchia di Mare on the promontory of the Gargano.¹ We
shall first examine the chief types of these implements

¹ Our knowledge of these types is entirely due to Colini. See *B. P.*, xxxii, pp. 234 sqq.

and then proceed to ask how their presence in neolithic deposits is to be explained.

a. Laurel-
leaf-
shaped
imple-
ment.

The first type to be noted is the laurel-leaf- or almond-shaped lancehead (fig. 63). It is an evident derivative of the *Chelléen* implement, the thickness being reduced and the work on the edges finer. This type prevails on the promontory of Gargano, and in the Vibrata Valley. The exact use of the implement is uncertain. It may have served as a lancehead, but it is possible that the larger examples were used as daggers.

b. Wil-
low-leaf
type.

A second type, closely allied to this, is rather narrower and takes the form of a willow-leaf. This implement sometimes reaches a length of nearly 10 cm. It seems to be peculiar to the Gargano district (fig. 64).



FIG. 64. Willow-leaf lancehead (?) from the Gargano. Derived from *Chelléen* type. Scale $\frac{3}{4}$. (Colini, *Bull. Pal.*)

c. *Solu-
tréen*
lance-
head.

The third type, which would appear to be a later development of the first, is the so-called *Solutréen* lancehead (Pl. I, fig. 2). It is much thinner than its prototype, and the work is often extremely fine. The shape varies slightly in different examples, but it is always roughly oval, pointed at one end. These weapons, which by their general aspect can be distinguished at once, are found in the rock-shelters of Breonio and Rivoli, in the Vibrata Valley, in all these cases in neolithic deposits, and also in the bronze age villages of Conelle, Arcevia and Monte Castellaccio.

d. De-
velop-
ments of
the *Chel-
léen* type.

A fourth type consists of the old *Chelléen* implement sharpened towards the vertex by the removal of small flakes all round. The type appears to be rare (fig. 65).

The fifth type is formed from the elliptical or almond-shaped *Chelléen* implement by sharpening its vertex or narrower end (figs. 66 and 67). The edge used for cutting is thus very small, and is formed by the removal of large

flakes from one or both sides (*a sbieco*). This type is usual on the promontory of Gargano, and occurs with neolithic material at Rivoli. From this must be carefully distinguished a sixth type. It is made from the *Chelléen* implement by thinning down and thus sharpening the broad end (figs. 68 and 69). Thus we get an oval instrument narrowing towards the heel, and with convex sides, and

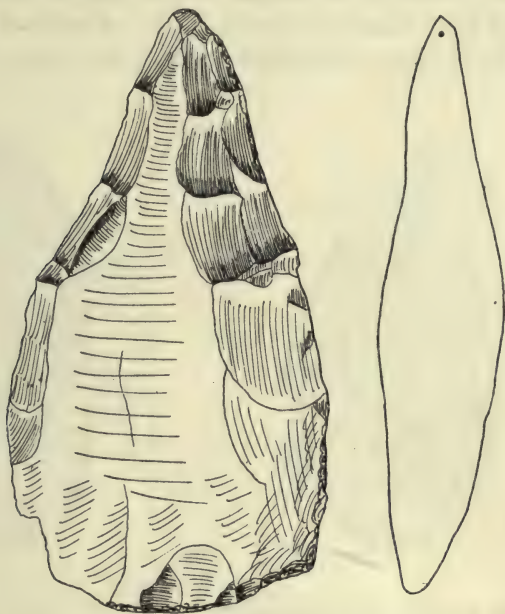


FIG. 65. Implement of derived *Chelléen* type. Scale $\frac{3}{4}$.
(Colini, *Bull. Pal.*)

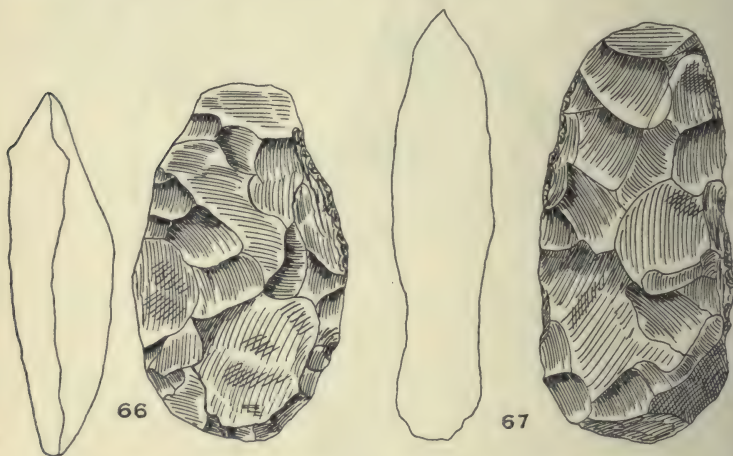
a broad convex cutting-edge. The type admits of great variety and may be called an adze or a hatchet, according as one or both of its faces are convex. It is common on the Gargano promontory, in the Abruzzi near Chieti, and in the Vibrata Valley.

The seventh type is a true adze. One face is almost flat, though worked. This form is roughly triangular or trapezoid, and the straight broad cutting-edge is formed *a sbieco* by flaking only on the convex face. It prevails at Chieti and in the Vibrata Valley (fig. 70).

The narrowing of type VI gives rise to an eighth type, which may be called a chisel (fig. 71). It occurs on the Gargano, and at Padua there is a fine example from Breonio, but with the exception of this last case it has never been found in Italy with neolithic material, and even in this case we cannot speak with absolute certainty.

f. The
tranchet.

The ninth, and perhaps most interesting type of all, is the so-called *tranchet* or *coupoir*. Its form is triangular or trapezoidal with straight sides (fig. 72). One face is almost flat just as it came from the core; the other is convex



FIGS. 66 and 67. Implements of derived *Chelléen* form. Scale $\frac{2}{3}$.
(Colini, *Bull. Pal.*)

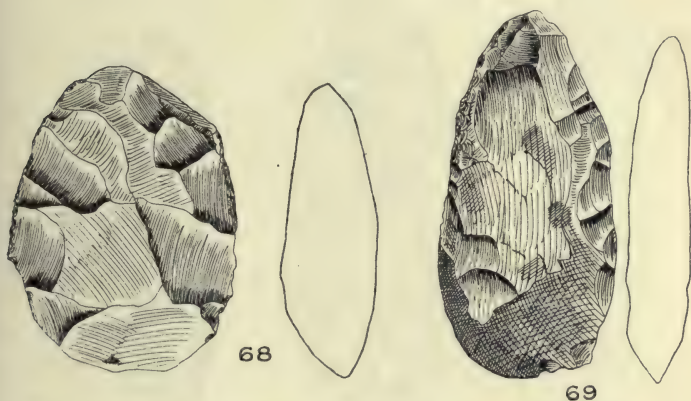
and worked in large flakes. The cutting-edge is straight and broad and is formed *a sbieco*, apparently by detaching a very large flake from the worked face. There is, however, some doubt as to the exact method of making the implement, some maintaining that both the planes forming the cutting-edge are part of the original flake of flint.

The *tranchet* was apparently one of the most generally used implements on the Gargano promontory, and it is also found in the Vibrata Valley and in the Abruzzi, near Chieti. However, it has never been with certainty connected with neolithic surroundings in Italy except in the *covoli*

of Breonio where it is quite common. The caverns of the Balzi Rossi yielded one example, said to have come from the later part of the neolithic stratum.

With the *tranchet* may be classed a type of implement formed in the same manner, but much narrower in build, so that it resembles a chisel. Colini quotes two examples from the Gargano (fig. 73).

The *tranchet* has a wide distribution in Europe. In the northern culture-circle of the stone age it plays a large part, being very common in the kitchen-middens of Denmark ^{The *tranchet* in Europe.}



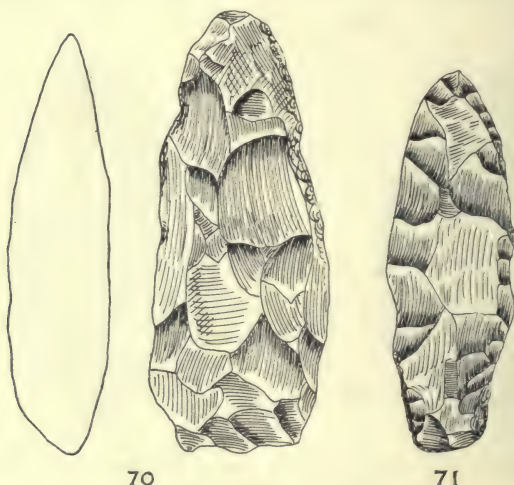
FIGS. 68 and 69. Implements of derived *Chelléen* form. Scale $\frac{1}{2}$.
(Colini, *Bull. Pal.*)

and also occurring in South Sweden, Schleswig-Holstein and North Germany generally. It should be noted that these examples belong to a period which, though having many appearances of being palaeolithic, is probably no older than the earlier neolithic in Italy. In France the *tranchet* sometimes occurs in *Acheuléen* deposits, but it is far more typical of the *Campignien*, which is usually considered as early neolithic.

It must be noticed that in many cases the implements of the types described above have been found on the surface of the earth, and have therefore afforded no evidence for dating. Nevertheless, it is beyond all doubt that at Breonio and Rivoli in the Veronese, and in the Vibrata Valley, ^{To what people are these forms to be ascribed?}

round Lake Lesina, and in the Gargano, such implements have been found actually associated with neolithic material, including, of course, pottery. Accepting, then, as we have done, the supposition that the neolithic civilization was brought into Italy by a new people, did they bring these palaeolithic forms with them? It seems not, for there are endless numbers of early neolithic settlements in which these forms are absent, e. g. the Ligurian caves (excepting, of course, Balzi Rossi) and the Reggian hut-villages. We must there-

Not to
the
Liguri.



70

71

FIG. 70. Adze derived from *Chelléen* form. Scale $\frac{3}{8}$. (Colini, *Bull. Pal.*)

FIG. 71. Chisel of derived *Chelléen* type. Scale $\frac{3}{8}$. (Colini, *Bull. Pal.*)

Survival
of the
palaeo-
lithic
people.

fore suppose that even after the arrival of the new folk in Italy the old palaeolithic people continued to inhabit certain parts of the peninsula, manufacturing and developing the implements of the *Chelléen* period, and at the same time learning much from their new neighbours. Thus the inhabitants of the Lake Lesina district learned the art of pottery, but did not substitute axes of polished stone for those of flint, the former being, no doubt, still somewhat precious and remaining mainly in the hands of the new folk who introduced them.

It may be noted in confirmation of this idea that all the

implements in question are seen to be developments of ^{a. In} *Chelléen* prototypes, and that the district where they occur most frequently is precisely that in which the *Chelléen* industry reached its highest perfection, namely, Apulia and the Abruzzi. Nor did the *Moustérien* types fail to survive in this district. The settlement at Macchia di Mare yielded an example of the disc-shaped implement of *Moustérien* type, large flakes brought to a point, and scrapers or saws. These last also occur in the Vibrata Valley. On one face they

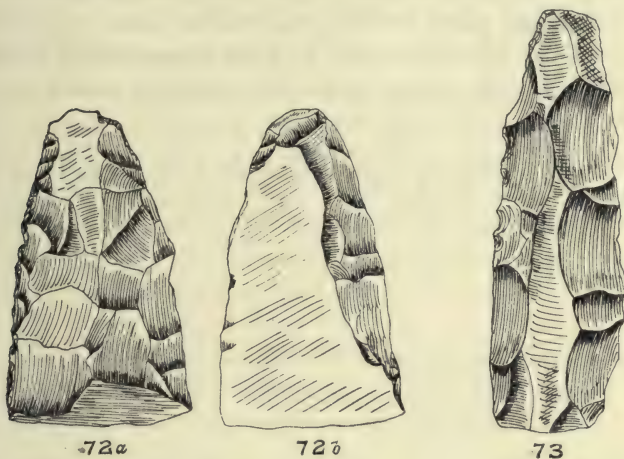


FIG. 72. *Tranchet* or *coupoir*, front and back views. Scale $\frac{2}{3}$. (Colini, *Bull. Pal.*)

FIG. 73. Narrowed form of *tranchet*. Scale $\frac{2}{3}$. (Colini, *Bull. Pal.*)

are quite unworked and show the bulb of percussion. One edge is thick and adapted to the hand while the other is sharpened by fine flaking in the *Moustérien* fashion.

Thus we find a district in Italy where, even in neolithic times, *Chelléen* and *Moustérien* types of weapons were still being used, often in improved forms. It is tempting to accept the hypothesis that in this district the old palaeolithic inhabitants survived, indeed it is difficult to see in what other way the facts can be explained.

Somewhat similar facts are to be noted at Breonio and ^{b. In the} Rivoli in the Veronese. Here, however, there is no sign ^{Veronese.} of the survival of *Moustérien* types. Moreover, we know

nothing of the palaeolithic period in this district,¹ and the *tranchet* and the *Solutrén* lancehead are so far removed from their *Chelléen* prototypes in Italy that here, where we have no sign of the interstages, it would be dangerous to speak of direct descent on the spot. Indeed, this group of antiquities still remains one of the most difficult in the Italian prehistoric period. Modestov² accepts the idea that the neolithic civilization of Breonio and Rivoli was developed from an earlier palaeolithic culture in that district, and by a single people. De Sanctis also accepts this view and gives to this people the name of *Euganei*; he is, on the whole, inclined to hold them totally unrelated to the neolithic *Liguri*, and this certainly seems justified by the facts.

¹ We must except a fine implement of true *Chelléen* type found among neolithic material at Breonio.

² *Introduction &c.*, p. 17.

CHAPTER VIII

ENEOLITHIC DWELLINGS AND CEMETERIES

THE *periodo eneolitico* is the name given by Italian archaeologists to the period when metal was first beginning to be used in Italy. The word is a hybrid, being derived from the Latin *aeneus* and the Greek λίθος, and it was originally used to denote a period in which both stone and metal were in use, i.e. a period in which stone had only in part given way to metal as a material for making implements and weapons. But the word *aeneus* must not be taken in the sense of bronze, for the metal in use during this period is practically without exception pure copper, the art of forming an alloy with tin being as yet unknown in Italy.

Meaning
of the
term
eneo-
lithic.

We have here included under this heading all those settlements which, on various grounds, appear too late to be called neolithic, and too early to be assigned to the true bronze age. Be it noted, however, that in order that a certain mass of material should belong to this period it is not necessary that it should include objects of copper at all, though, as a matter of fact, it usually does. By considering all the stations which contain objects of copper of primitive form it has been found that the stone and other implements accompanying them are of certain almost invariable forms peculiar often to this period. We may, therefore, safely assign to the period all stations which contain these forms, even though objects of copper have not been found in them.

Stations
assigned
to the
period.

The inclusion of the First Siculan period under this head needs an explanation. It is quite probable that the major part of this Siculan period is later than that which is called eneolithic on the mainland; indeed, its end is certainly later than the first appearance of lake-dwellings in North

Eneo-
lithic
period in
Sicily.

Italy, an event which we have here attributed to the early bronze age. Nevertheless, the eneolithic period in Italy and the First Siculan in Sicily are both marked by two similar events, the appearance of the first objects of metal and the coming of the rock-hewn sepulchre. This is surely sufficient justification for adopting a classification which might on other grounds seem dangerous.

The
period
first
studied
by
Chierici.

The first archaeologist to realize fully the importance of this period was Chierici, who, many years ago, gave some description of his excavations in the cemetery at Remedello, and attempted to estimate the position of this period in the prehistoric series.¹ Since that time many discoveries relating to the same age have been made, and these have been discussed by Colini in a lengthy article (*B. P.*, vols. xxiv-xxviii).

Starting-
point for
the study
of the
period.
The Re-
medello
cemetery.

a. The
graves.

We may, very naturally, take as a starting-point the great eneolithic cemetery of Remedello Sotto, in the province of Brescia, for it was here that the first definite traces of the period were found (Map I, 12).

The graves examined at Remedello were 117,² but the number must have originally been much larger. They are divided mainly between two cemeteries, south and north. In the north cemetery the tombs are arranged in groups, and each group contains graves which differ from one another in respect of the age and sex of the skeletons and the importance of the furniture contained. In the south cemetery the tombs were arranged in regular and parallel lines, running east and west, 2 metres apart, while each pair of tombs in the same line was 6 metres apart. The richest tombs appeared to be those nearest the centre of the cemetery, and the importance of the furniture decreased in proportion as the graves were nearer the edge. Outside the limits of these two cemeteries other graves, clearly of the same date, were found. They were sometimes isolated, sometimes in groups. They contained the skeletons of persons of various ages, but the furniture was seldom of great importance.

Both in the cemeteries and outside it was noted that

¹ *B. P.*, x, pp. 133 ff.; xi, pp. 138 ff.

² *B. P.*, x, p. 133; xxiv, p. 1.

the tombs of babies contained no furniture except a few flakes of flint.

The tombs consisted of trenches, usually ovoid in shape, ^{b. Their shape.} hollowed in the open earth to a depth of from 0.60 to 1.00 metre. The bottom is often concave, and in the side of the wall is cut a small recess to receive the folded legs of the body. This lies usually on the left side, the head turned ^{c. The body.} to the left and the legs contracted. The right hand lies in front of the pelvis, often grasping a dagger, while the left is either up to the head or stretched along the body. Rarely the body lay on the right side, or on the back with legs stretched out, a position observed to be more common in the graves of women. In one case only was the corpse in the squatting posture, that is to say, sitting as opposed to lying. In the case of bodies in the usual position, i.e. on the left side and contracted, the skull lay towards the North-West or North-North-West, and the face was turned in a direction between North and East. Extended bodies almost always lay with head to the East and face turned upwards. Only two graves contained more than one body. Of these one contained two adults one above the other, and the second two babies similarly placed. In most cases ^{d. Disarticulation.} it is clear that the bodies were buried with the flesh still on, but in a few graves lay incomplete skeletons or bones lying out of their natural position. This may be accounted for, partly by the unprotected nature of the graves, but there can at the same time be little doubt that some, at least, of the bodies were artificially deprived of the soft parts before being placed in the grave. Even if this strange rite—common among the people in question—be denied in the case of Remedello, it is at least certain that some of the bodies were buried here after lying elsewhere for a considerable period after decease. The graves were provided with no covering of wood or stone, but beneath the body was strewn a layer of blackish earth with traces of carbon. The tomb was filled up with this same earth. To judge by traces of cloth found on the surface of a dagger the dead were buried clothed.

In a few rare cases there was no furniture, more often

e. Furni-
ture.

Grave
LXVIII.

there were only a few flakes of flint. Sometimes, however, the furniture was considerable. In such instances it was always (with two exceptions) arranged in an orderly and methodical fashion. This will best be gathered from the detailed account of Grave LXVIII which follows (I abridge Colini's account).

The grave contained the skeleton of an adult, probably male, well preserved and with good teeth. The trench in its present condition is 1.29 metres long and 0.72 broad. The skeleton is contracted, head to North-West and legs to South-East, lying on the left side, with the right arm folded over the belly and the left on the breast. A broad triangular dagger of flint with curved edges and sharpened point lies at the side of the skeleton within reach of the right hand, the base towards the hand and the point turned upwards.

Four arrowheads of flint lie before the face, resting side by side with points upwards, i. e. in a direction parallel with the body.

Above these lies a copper axe also parallel with the body.

To the left of the skeleton and transverse to it lies an axe-handle of stag-horn.

In other graves the positions of the various objects differ, but the arrangement is always careful and always based upon the natural position of the objects when in use.

The Re-
medello
hut-foun-
dations.

Close to the cemeteries were found remains of hut-foundations consisting of roughly circular holes in the ground, about 3 metres in diameter and 1.35 metres deep. These are similar to those which characterize the neolithic people of Italy in almost every district. They contain objects identical with those found in the cemeteries. The holes, it must be noticed, form only the central part or hearth of the huts, which would themselves be of a somewhat large size.

Date of
Remedello.

Thus at Remedello we have a hut-village and a cemetery precisely similar to those of the neolithic period; except for the advanced nature of the material which they contain. In the huts half-concealed in the ground, in the careful details of the trench-graves we seem to trace the remains

of the neolithic people of Italy, but that we have got just beyond the neolithic period in point of date is clear from the objects of copper.

The most characteristic of the products of human industry found at Remedello are primitive flat celts and daggers of copper, polished celts of green stone (jadeite and chloromelanite), and daggers and arrowheads of flint worked in minute flakes, and of a very perfect type. Remedello type of material.

We are now at liberty to assign to the Remedello or neolithic period all stations which contain material of this same type, and to ask what further light they throw on the nature and customs and race of the people who left them. Other sites of the same period.

The Remedello cemetery had only been excavated four years when it was shown to be no isolated phenomenon by the discovery of a similar necropolis at Fontanella (Map I, 10), a few miles to the South. Here were found thirty-six tombs consisting of trenches dug in the earth to a depth of from 0·30 to 0·75 metre.¹ The posture of the skeletons shows complete resemblance to that seen at Remedello. They are almost invariably contracted and lying on the left side. The head is to the West, while the face looks east or north-east. In rare cases the body lies on the right side, or even supine, but even in this last case the legs are often contracted. The arms are in various positions; sometimes the right holds the handle of a dagger while the left lies extended along the side. In one case the left hand must have been upstretched to support the head. One grave contains two skeletons in very close proximity. Signs of provisional burial are not wanting, though here, as at Remedello, it was the exception rather than the rule. The furniture is of the usual type, consisting in some cases of a few flakes or a core of flint with perhaps a bone awl. More usually, however, there were flint daggers, lance- and arrowheads, polished stone axes and pottery. Copper was rare and was represented by four or five awls and a triangular dagger. The furniture was always carefully placed in position. Personal ornaments were rare, 1. Fontanella.
a. Graves.
b. Bodies.
c. Furniture.

¹ *B. P.*, xxiv, p. 220.

though boar's tusks and shells of the genus *Conus* were, no doubt, used in that capacity.

The presence of two such cemeteries as those of Remedello and Fontanella seem to show that the district of Brescia and Mantua was an important centre of this eneolithic civilization. This is supported by the discovery of three more sets of tombs near Remedello, one at Santa Cristina, one at Panesella, and the other at Ca' di Marco.

2. Pane-
sella.

At Panesella, near Volongo (Map I, 11), two trench-tombs were found containing bodies in the contracted position. One of the graves contained seven flint arrowheads lying on the breast of the skeleton, a polished axe of green stone and a triangular dagger of metal. The other grave contained a flint dagger and arrowhead and a stone axe.

Another tomb found in the locality is probably to be referred to the same period, for although it yielded no object of copper the stone weapons were of an advanced type. A fourth tomb gave a triangular flint dagger, an axe of serpentine and a mattock of stag's-horn.

3. Ca' di
Marco.

The grave found at Ca' di Marco (Map I, 9) is of peculiar interest. It contained no metal and is attributed to the eneolithic age on the ground of containing bell-shaped cups (*bicchieri a campana*) decorated with bands of white-filled points. The cups were accompanied by flints which bear no resemblance to the finished products most typical of the Italian eneolithic age, and the grave is probably one of the earliest of the period. The body lay on the left side, head to the North, face to the East, legs contracted and hands under the chin. Fixed in the earth at the edge of the trench and forming a rectangle were four large wooden piles which may originally have supported some sort of covering for the tomb.

4. Santa
Cristina.

Two very similar graves were found at Santa Cristina, province of Brescia (Map I, 8). Close to the graves were found two circular holes 30 cm. in diameter, filled with dark earth. Similar holes, it will be remembered, were found at Ca' di Marco, where they were supposed to have been the sockets of piles used to support a roof over the graves. The only objection to a similar explanation at

Santa Cristina is the diameter of the holes. The graves faced roughly east and west, and the furniture was in both carefully arranged along the south side.

In one grave were a broken cup with punctured ornament, a knife of flint and a dagger of copper. In the other were a bell-shaped cup with punctured decoration in bands, and a flat axe of copper. The dagger is precisely similar to one from the cavern of Sant' Elia in Sardinia.

This type of eneolithic burial, first studied in the neighbourhood of Brescia and Mantua, is, however, not peculiar to that district. We are able to trace it in many parts of Italy. Moving south from Brescia and Mantua we first find it again in Emilia at Cumarola and Bosco di Malta.

At Cumarola, near Modena, in 1856, forty skeletons came to light (Map I, 25). They were buried in the open earth at a depth of over 3 metres. The graves were arranged in two parallel rows, and the bodies all lay with the head to the South. The furniture was placed in position. It consisted in each case of a copper lancehead or dagger on the right side, and an arrowhead of flint on the left. In some cases was added an axe of copper or serpentine, or a stone club-head.

A skeleton exhumed in 1861 had on the breast a rectangular piece of cloth, on which were fastened small pieces of copper wire. A flat axe of copper and a dagger of copper or bronze completed the furniture.

At Bosco di Malta, near Bologna, were found eneolithic graves (Map I, 26). The accounts of the find are confused, but it is clear that at least two graves were discovered. The skeletons were accompanied by flint arrowheads, and one had in addition rough vases and a fragment of a flat copper axe, and a chisel.

Further south we find the same type of grave on the Adriatic coast at San Rocco (Map I, 34), in the province of Ancona, where an inhumed skeleton was unearthed in 1873.¹ It lay in the naked earth with the head towards the East. The furniture, placed in the usual careful manner, consisted of three knives, a spearhead and twenty-six arrowheads of

¹ *B. P.*, xxiv, p. 216.

flint. During the work which resulted in the discovery, though whether in the grave itself does not transpire, were found an axe of copper and a terracotta spindle-whorl.

Two more sets of burials, at Poggio Aquilone and Rinaldone respectively, enable us to trace the same type of remains down the Tiber Valley.

8. Poggio Aquilone. At Poggio Aquilone (Map I, 38), in the province of Perugia, a rustic unearthed a skeleton buried in the open earth. It is not known in what posture the body lay, nor whether it was accompanied by any pottery. The furniture included a knife, a dagger, and four lanceheads of flint, a stone hammer, and a dagger and axe of copper.

9. Rinaldone. At Rinaldone (Map I, 41), near Viterbo, three trench-graves were found by peasants, but the position of the skeletons was not observed.¹ One contained a stone hammer and a club-head, together with nine flint arrowheads. The second contained six flint arrowheads, a club-head, two polished stone axes, and a vase *a bottiglia* with cylindrical neck (Pl. II, fig. 10). The third grave yielded twenty-two flint arrowheads, two club-heads, two flat axes of copper, three copper daggers and fragments of a fourth, and, finally, a flattened spherical vase with short cylindrical neck and handles in the form of long string holes (Pl. II, fig. 11). It must be noticed that one of the daggers is of unusually large size (length 7.15 cm.), with rounded base, and is ribbed down the centre. The type is not common in Italy in the eneolithic period, but it occurs frequently in the bronze age.

10. Toppo S. Filippo. Finally, we are able to trace the same type of eneolithic burial as far south as the Samnite country. At Toppo S. Filippo near Benevento (Map I, 48) a single tomb was found.² It consists of a trench cut in the open earth, about 1.30 metres deep, and containing the skeletons of three persons all in the extended position. Each was equipped with a vase which lay behind the skull, and two held flint daggers. One of these daggers is 18.3 cm. long, worked by flaking on the upper side only. The point, however, which is very sharp, is minutely flaked on the

¹ B. P., xxix, pp. 150 ff.

² B. P., xxxi, pp. 1-13.

lower side also. A similar example was found quite lately at Castel Malnome, near Rome, where there are probably eneolithic tombs. These daggers worked on one side only are a product of the late neolithic age in Italy, but are almost peculiar to the centre and South. They form a good example of those local peculiarities which suggest the existence of very large weapon factories supplying and setting the fashion to great tracts of country.

Of the vases one (Pl. II, fig. 12) is of the *bottiglia* shape with a cylindrical neck, typical of the neolithic period. The second is of similar form, except that the neck slopes inward. It is paralleled only at Molfetta. The third, a handled beaker, occurs at Remedello and is common in the bronze age in North Italy (Pl. II, fig. 13).

The evidence of the cemeteries we have examined proves that in the eneolithic period the old neolithic rite of inhumation in trench-graves still prevailed in many parts of Italy from Brescia to Samnium.

The trench-grave, however, was not the only type of grave used in this period, for we have in Central Italy, at Sgurgola, Cantalupo Mandela and Camerata, examples of rock-hewn sepulchres. These were apparently unknown to the neolithic people in Italy, and form one of the innovations of the eneolithic age.

The first of these rock-tombs to be discovered was that of Cantalupo Mandela (Map I, 42). In a huge rock of travertine rising above the level of the surrounding ground were discovered two artificial grottoes, one only 1.10 metres above the surface of the ground, the other at a height of 7 metres. The upper cell was 0.30 metre high, 1.75 long, and 0.75 wide, the lower was slightly larger. As part of the face of the rock has been quarried away—and indeed, the discovery of the cells was due to this—it is clear that the grottoes must have been some distance from the exposed face, and must have been entered by long passages. The cells themselves were of very rough workmanship and were not squared up at the angles.

The upper grave contained two skeletons, one extended,

the other slightly contracted. The furniture consisted in all of a rough vase and about twenty flint points, arrow- or lanceheads.

In the lower grave lay three extended skeletons side by side. At the feet was a heap of bones of the hare, dog, pig, stag and ox. No furniture was found.

b. Sgurgola.

Some years later a somewhat similar discovery was made at Sgurgola, in the province of Rome, where a grave was found which consisted in a niche opening off from the bottom of a pit cut in the travertine¹ (Map I, 44). Within the niche was found a skeleton. The skull was in parts coloured with a bright red pigment, and two of the arrowheads belonging to the furniture were similarly treated. In the case of the skull the fact is doubly important, as it proves that the body before burial must have been stripped of the flesh. Both this and the red paint are characteristic of the *Ibero-Liguri*, or neolithic people in Italy, and indeed elsewhere. In the grave were also found a vase, sixteen arrowheads, a stone hammer and a copper dagger, all of typical eneolithic form.

c. Camerata.

At Camerata, in the province of Aquila, was found another grotto containing furniture of the Remedello type (Map I, 43). We are told that it was hewn in the tufa and closed with pieces of the same material. It contained a skeleton, eighteen arrowheads of flint and a copper axe.

These graves prove indubitably that during the eneolithic age the dead were buried, not only in the naked earth as at Remedello, but also in artificial grottoes. Unfortunately the evidence is scanty and the observations are incomplete, so that we are not in a position to compare the form and workmanship of these tombs with that of the true and carefully examined artificial grottoes of the Basilicata, Sicily, Pianosa and Sardinia. Nevertheless, the existence of such tombs, whatever their form, is a fact of immense importance as we shall see later.

But yet a third manner of burial was practised in this

¹ B. P., xxiv, p. 208.

period. As in the neolithic age so in the eneolithic the bodies of the dead were sometimes buried in natural caves. In Etruria we have a group of three caves which, in the period under discussion, served for burial. These are the Buca delle Fate, the cave on Monte Bradoni and the Grotta di Castello.

The cavern called Buca delle Fate lies on Monte Tignoso, near Leghorn (Map I, 31). It is entered by a narrow and difficult crack, and it is extremely improbable that it was ever used as a dwelling-place. On the floor of the cavern lies a deposit of bones, human and animal, in complete confusion. With these are large numbers of worked objects, flint instruments, polished stone axes, borers of bone and horn, pottery and pieces of metal. Among the latter was an ornamental ring of copper. It seems probable that this cave was used as a bone receptacle, and that the bodies were not introduced until deprived of the flesh. The objects found would naturally be the burial furniture, and the animal bones the result of a sacrifice or funeral banquet to the dead. Indeed Cocchi, who examined the cave, believed that he had found the spot on which such feasts took place at a short distance from the opening of the cave.

On Monte Bradoni, near Volterra, in 1897, remains of the eneolithic period were found in a cave¹ (Map I, 32). At the sides were strewn human bones in disorder, with five or six skulls intact. One vase and several fragments, all of very rough clay, were found, together with two arrow-heads of flint, four copper daggers of the triangular eneolithic form, a few other pieces of copper and three buttons, perhaps of tin, each with two converging holes. The pottery is, as usual, of two types, one rough and the other fine, with a black polished surface. Its shapes can scarcely be made out as it was very broken. The only ornament consists of raised strips of clay pitted at equal distances by the finger of the potter. Among the handles is to be noticed one of the usual ribbon-shape with a small knob above. One of the pieces of copper consisted of a thin narrow

¹ *B. P.*, xxv, p. 301.

lamina ending in a semicircle. Of great interest are the buttons of tin. They are conical with two converging holes in the side, forming a passage for the thread (cf. fig. 147). They show that tin was already known, but only as a precious metal. The shape occurs in the pile-dwelling of Polada, and also in the turf-pits of Brescia, but the materials used there are bone and amber respectively. It is known in England, Scandinavia, Austria, France and Spain, and in the two latter countries it occurs in the dolmens.

c. Grotta
di
Castello.

The Grotta di Castello lies near Vecchiano, in the Monti Pisani (Map I, 29). It contained numbers of human bones mixed in a solid mass with manufactured objects, animal bones and land and sea shells. The products of industry included arrowheads of eneolithic type of jasper and flint, spindle-whorls of terracotta, and pottery of finer and coarser kinds. Besides these were found beads of marble, and a dog's tooth pierced for a pendant. Finally there came to light a copper dagger-blade, triangular with a strong central rib.

It is clear from these three caves that the Remedello civilization was also enjoyed by families who still buried their dead in caverns, probably after a provisional burial or a removal of the flesh from the bones. We have thus found that during the period under consideration three methods of burial were in use, viz. interment in the open earth, deposition in artificial grottoes, and heaping of the skeletonized corpses in natural caves.

But before leaving the burials of these people we must deal with one more burial-cave which has been held by some to prove that both cremation and cannibalism were prevalent in the eneolithic period. This is the cave called La Tana della Mussina, in the province of Reggio Emilia (Map I, 24).

d. La
Tana
della
Mussina.

The products of human industry include polished axes and flint weapons of advanced type, as well as instruments of bone. But the pottery, though in part recalling that of the neolithic age, has, according to Chierici, affinities with that of the *terremare*, and an awl and a rivet of bronze, the latter of a type usual in the bronze age, make it unlikely that the whole of the deposit is of eneolithic date. The

human bones found belong to eighteen persons of various ages, and were found mostly near or upon a hearth, mixed with the bones of animals. Chierici observed that not a single skeleton could be completely reconstructed, and that the skulls were usually broken and often bore traces of fire.

This raises two very important questions, that of cannibalism and that of cremation.

With regard to the first, we have in Italy several caves in which masses of human bones were found strewn about in a stratum containing charcoal and remains of animals, and the human bones themselves sometimes showed traces of fire. The caves in which remains of this kind have been found are those of Arene Candide in Liguria, Capo S. Elia in Sardinia, Diavolo in the Capo di Leuca, Salomone and S. Angelo in the Valle della Vibrata, Lazzaro in Sicily, I Colombi in the island of Palmaria, and La Mussina in Reggio Emilia. Traces of fire on the bones were found at Capo S. Elia, Lazzaro, La Mussina, and Arene Candide. Thus the evidence for cannibalism is threefold, and consists of the incompleteness of the skeletons, the traces of fire on the bones, and the finding of the bones in a mass of animal remains and charcoal. The weakness of this evidence need hardly be pointed out. We have only to remember that the rite of *scarnitura*, or stripping of the flesh from the bones, was practised among these people, and that caves were often used as receptacles for the bones together with the remains of a funeral banquet, in order to see that the evidence is indecisive.

With regard to the traces of fire on the skulls something more must be said. If this deposit belonged to the bronze age, as I believe it must, the practice of cremation, or at least partial cremation, may have been copied by these aborigines from their neighbours of the *terremare*, who cremated. Such an explanation would not suffice for other cases of the practice, however, and it seems preferable to attribute the burning of the skulls either to the exposure of the corpse in close proximity to a ritual fire or to the lighting of fires over the already buried body, either to clear the air

1. Cannibalism.

2. Cremation.

of the cave for a new funeral feast or to prepare the feast itself. Admitting here, too, that the evidence is not decisive, we must not fail to note that similar facts are to be observed in natural and artificial grottoes and in megalithic cells both in France and in Spain.

Eneo-
lithic
dwellings.

But we have dealt at sufficient length with the burials of the eneolithic period, and it is now time to ask what is known of the habitations of the period.

1. Hut-
villages.

Unfortunately, what is known is very little. We have, however, seen that at Remedello there existed a hut-village of the old neolithic type, the huts being half sunk in the earth. It is probable, too, that among the many huts excavated in North Italy and attributed to the neolithic age, some are, despite the absence of metal, of eneolithic date. Among the hut-foundations which can be safely attributed to the eneolithic period are those of the Valle della Vibrata, and of the *fondo* Nazari, near Marendole, in the Veneto. The latter are in a district where hut-foundations of the bronze age are commonly found, yet as they yielded a copper flat axe it seems probable that some of them, at least, are eneolithic.¹ The form and size correspond closely with that of the hut-foundations of Remedello.

a. *Fondo*
Nazari.

b. Vibrata
Valley.

The hut-foundations of the Valle della Vibrata cover a period extending from the neolithic to the early iron age. From this district come axes and dagger-blades of typical Remedello form.

2. Caves.

But it is probable that side by side with the practice of living in huts that of living in caves still continued. There is no very definite evidence on this point from Italy, though the Ligurian caves have yielded a few implements of eneolithic type. But in Istria we have certain proofs that caves were inhabited in the eneolithic period.

San Can-
ziano.

The natural cavern of San Canziano (Map I, 16) lies in a remarkable chasm or abyss near Trieste. At times it is subject to inundation by an underground river which flows through the abyss. It contains remains of almost all periods. Above a palaeolithic stratum lies a thick layer

¹ I find, however, by inquiry on the spot, that this axe was not actually found in a hut-foundation.

of river-mud, and above this again a stratum which appears to belong to the late neolithic or eneolithic period. The objects of flint are mostly rough, but there is one spearhead with fairly fine flaking, and a pair of polished axes of stone. Borers and other implements of bone are common. The pottery is rough, ornamented with relief-strips of clay pitted with the finger, or with knobs of clay, or with very roughly scratched incisions.

Above this stratum, though divided from it only by a fine film of mud, were found a flat celt and a dagger, both of copper. Both objects are of typical eneolithic form, and show that the cavern was inhabited during the eneolithic period. Marchesetti thinks that these two objects are very little later than the deposit underlying them, in fact he is inclined to term the whole deposit eneolithic.

But we have now exhausted the evidence as to the habitations and graves of the mainland, and must pass on to those of the islands.

CHAPTER IX

THE ENEOLITHIC PERIOD IN THE ISLANDS

Eneolithic civilization in the islands.

THE picture we have been able to draw of the eneolithic civilization on the mainland cannot be called really complete, and it is therefore the more satisfactory that this period is so well represented in the islands, notably Sicily, Sardinia, Pianosa and Pantelleria. At the same time it must be noted that the civilization which we find in these islands, especially in Sicily and Pantelleria, shows remarkable contrasts with that of Italy itself.

A. SICILY.

As Sicily is in many respects the most important of the islands, we shall consider it first. The part of Sicilian pre-history included in this chapter is that called by Orsi the First Siculan period, the period which succeeds the neolithic age as seen at Stentinello, and later at Moarda and Villafrati. In placing it in this part of the work I do not wish it to be assumed that it is entirely parallel to the eneolithic period on the mainland, though in the main it certainly is so.

First Siculan period.

1. The Palermo district.
a. Capaci.

Of this period we have traces in various parts of the island. In the Palermo district, as early as 1880, several rock-hewn tombs were found at Capaci, in the plain called La Ciachia¹ (Map IV, 161). A circular shaft widening below gives access at the bottom to a circular chamber lying to one side of the shaft and rather deeper. The roof of the chamber is vaulted.

The graves were mostly rifled by labourers, and little has survived. A few vases, however, are now at Palermo, and show a very primitive style. One is incised with lines bordered with dots, and is also coloured with a red pigment.

¹ *Not. Scav.*, 1880, p. 356.

The importance of this discovery was that it proved the existence in Sicily of rock-hewn tombs of a very early date. Its importance now in the light of further discovery is that it shows the rock-tomb to have been in use in the west of the island as well as in the East. Rock-tombs.

Even to-day we know little more about the First Siculan period in the Palermo district. At Villafrati ai Colli (Map IV, 163) remains have indeed been found, but there seems to be no reliable information with regard to them. They consisted of 'small painted idols, bichrome vases, stone weapons, and skulls painted with vermilion'.¹ It is to be presumed that these idols, being in the company of bichrome pottery, belong to some station or grave of Siculan I, and not to the neolithic deposits at Villafrati. Petersen describes them as *zwei mykenische idoletti*.² b. Villafrati.

From the Girgenti district we have more satisfactory, though not complete evidence. 2. Girgenti district.

In the hill of Pietrarossa, which lies on the railway between Campobello and Licata (Map IV, 169), was found a natural cavern.³ An excavation to a depth of 2 metres revealed two distinct strata of ashes, mixed with shells and bones. Below this were three human skeletons, mingled with a large number of vases. The periods represented by the finds in and around the cavern seem to be several, and the excavation was too limited to have much scientific value. The cavern was apparently used both as a living-place and as a sepulchre, though doubtless at different times. The important facts are that the cave yielded an axe of polished stone, one of copper, to be referred to later, and bichrome pottery of Siculan I type (e.g. fig. 74 from which the paint has faded). a. Pietrarossa.

At Passarelli, in the same locality, was found a double tomb hewn in the rocky surface of the ground. It was entered by a pit, and contained numerous human remains, including seventeen skulls. The pottery was of the usual bichrome type. b. Passarelli.

From this it appears that both caves and artificial rock-

¹ B. P., xix, p. 48.

² *Röm. Mitth.*, xiii, p. 191.

³ *Not. Scav.*, 1879, p. 231.

tombs were used for burial in this period. The period itself is dated by the presence of the bichrome pottery, which, as we shall see later, is typical of Siculan I.

c. Naro.

To the same period must belong the material from Naro, near Girgenti, which lies in the Palermo museum, and still remains unpublished (Map IV, 168). It consists mainly of pottery of two classes, painted and unpainted. The painted ware is of the usual type. The forms include the high basin on a conical foot, with numerous variations which run into one another, a series of cups, and a few forms peculiar

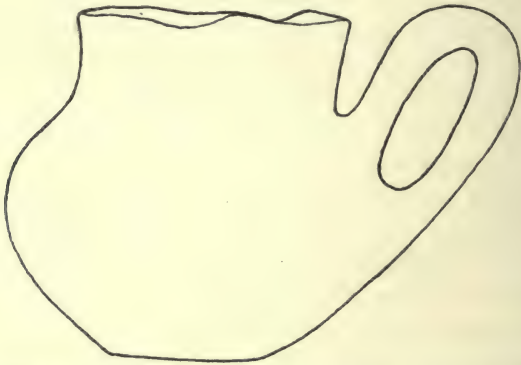


Fig. 74. High-handled cup, Pietrarossa. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

to this station. The remarkable feature is the obvious survival into this period of the earlier shapes found in the neolithic caves of West Sicily, and the material, if published, would be recognized at once as one of the strongest arguments for denying any radical ethnical change in Sicily between the Sicanian and the First Siculan period.

d. Monserrato, Monteaperto and Monte Sara.

Later research has revealed three distinct cemeteries of rock-tombs in the neighbourhood of Girgenti, at Monserrato, Monteaperto, and Monte Sara (Map IV, 165). In these the tombs are not reached by a shaft as at Capaci, but are cut in a vertical face of rock and entered by a narrow doorway. The vases from Monteaperto are of interest as being perhaps the earliest known to us of the Siculan I painted style. They are painted in brown on a yellow

or pink ground, and resemble closely those of Castelluccio, though they do not show the same wealth of design. They include the biconical or 'hour-glass' vase with three handles, and a series of biconical cups with tall handles (figs. 77 and 78). These last sometimes have a distinct conical foot, a variety so far peculiar to this cemetery. With the vases were found five small stones and two shells of the genus *Helix*, all pierced to be used as ornaments.

But it is in the Syracusan district, i. e. in the south-east corner of the island, that the First Siculan period has, thanks to Orsi, been thoroughly studied.

Von Andrian was, I believe, the first to call attention to the existence of painted pottery in this district. He carried out a hasty excavation in the Grotta San Lazzaro, about $2\frac{1}{2}$ hours south-east of Modica, in the ravine called Cava Lazzaro¹ (Map IV, 197). It contains a few human and a large number of animal bones. Stone implements are rare. The pottery is either rough or painted in the usual First Period style. Signs of fire were scarce.

The great interest of the deposit is that it proves the use of caves during the First Period, though for what purpose is uncertain. The presence of human bones points to burial. But the large numbers of animal bones and potsherds point to a home for the living. It is quite probable that it was used for both purposes either contemporaneously or successively, as were several caves on the Italian mainland.

Although our knowledge of the cave is very imperfect, it is probable that the periods represented in it are two, viz. late neolithic and First Siculan periods.

But it remained for Orsi, by his excavations in the cemetery and village of Castelluccio (Map IV, 191), to give us the first definite ideas of the civilization of the period. In the cemetery called that of Cava della Signora he explored thirty-one graves of this period.²

They are rock-hewn chambers cut in a vertical face of rock and entered by a horizontal corridor or *dromos*. The burial-chamber is circular or elliptical, and the *dromos* is very short. Occasionally the grave consists of two

3. Syracuse district.

a. Grotta San Lazzaro.

b. Castelluccio cemetery.

1. The tombs.

¹ Von Andrian, pp. 79-82.

² *B. P.*, xviii, pp. 1 ff.

chambers connected by a short passage. The entrance to the grave is small, and is closed by a large slab of stone.

2. Burial
rite.

Each chamber contains many skeletons; in one case at least twenty-six were found. As the chambers are small, the bodies were perhaps deposited when already despoiled of the flesh. They are invariably in the squatting position.

3. Pottery.

The pottery is of two types, rough or painted. The latter, which is rare, is of the usual First Period type (cf. figs. 77-83). The rough pottery is generally grey in colour. Flint knives are common, and are found at the head of the skeleton. Obsidian does not occur.

4. Other
objects.

A large axe of basalt and two daggers of eneolithic type were found in the earlier and secret excavations in the necropolis.



FIG. 75. Imported ornament of bone, Castelluccio. Scale c. $\frac{2}{3}$.
(After Orsi, *Bull. Pal.*)

Pendants are common, and vary in form. They often consist of small axe-shaped pieces of hard rock. Small beads of calcareous rock also abound. Much more important are several tubes of bone, about 14 cm. long, carefully carved on the outside in a pattern consisting of a row of segments of spheres (fig. 75). These are beyond all doubt an importation (see below, p. 286).

c. Cas-
telluccio
village.
1. Rubbish
heap.

The cemetery being exhausted, Orsi turned his attention to the village.¹ No traces of huts were found, but a large rubbish-heap was carefully explored. It consisted of a thick layer of burnt wood, bones, vegetable remains, pottery and implements of various kinds.

The bones include a tooth of the horse, an animal unknown at Stentinello.

¹ *B. P.*, xix, pp. 30 ff.

Of stone we have axes of basalt, varying in shape from the ovoid to the flat trapezoid shape. Obsidian is lacking. In flint are numerous long knives, and many chips, flakes and fragments. The arrowhead occurs only twice.

The pottery is of three kinds. Firstly, rough grey ware of the usual First Period forms. Secondly, a ware made of purer clay and covered with a yellow or reddish slip. The predominating shape is a large ovoid jar with ridges of clay in relief. Thirdly, painted ware, covered with a slip of deep red, cream, or dirty white colour, the latter being peculiar to this site. The ornament is geometric, and is executed in dark-brown paint. This pottery will be more fully dealt with later in the chapter.

The cemetery of Castelluccio may be said to have fixed the type of the First Siculan period. From the necropolis of Melilli,¹ discovered about the same time, we learn some further details as to the burial customs of the period (Map IV, 182). Here the usual type of tomb is a circular or elliptical chamber about 1.50 metres in diameter, entered by a small door or more correctly 'window'. There is no true *dromos*. Sometimes the burial-chamber proper is preceded by an antechamber. The roof is either flat or concave, and the cell is less than a metre high. The rectangular form of cell occurs only once. The edges of the 'window' are often rebated to receive the closing slab.

Each tomb contained several bodies, and the rite of *scarnitura*, or removal of the flesh from the bones before burial, was possibly practised.

At the entrance of the tomb was placed a large basin, perhaps containing water. Vases of rough grey ware surrounded the bodies. Occasionally the ware with deep red surface and geometrical patterns was found.

At the head of each body was a flint knife. Pendants of various forms and of various stone are very common. Small flat pieces of stone pierced at both ends were possibly wrist-guards for archers. A tubular spiral of bronze and a ring of bronze wire were also found.

¹ B. P., xvii, pp. 53 ff.

Burial
rite of
period.

We may thus assert that the usual method of burial during the First Siculan period was inhumation in rock-hewn tombs. The corpses were probably deprived of the flesh before burial, and several were interred in the same tomb, each with a considerable provision of funeral furniture.

Variations of it.

e. Monte
Racello.

We must not, however, jump to the conclusion that this method of burial was invariable. That it could be and was actually varied has been proved by later discoveries. At Monte Racello (Map IV, 189), for example, where the ground is of a broken character, the method of burial has been adapted to circumstances. The result is that we find artificial rock-chambers, natural caverns enlarged, and graves formed on the surface of the soil by fitting together slabs of rock.

Grave 1.

Grave No. 1 is a chamber of irregular rectangular plan, hewn in a soft conglomerate, resembling a natural cavern more than an artificial chamber. It contained remains of some fifty skeletons together with vases and flint knives. The vases are mostly typical of the First Siculan period, both as regards technique and form. Graves 2 and 3 are both artificial chambers, and contain respectively about twenty and about ten skeletons. Graves 4 and 5 stand side by side, and were formed by enlarging a natural cavity.

Graves
2 and 3.
Artificial
chambers.

Graves
4 and 5.
Enlarged
caves.

No. 4 had been rifled years ago by peasants, but yielded pottery of the First Period type, together with fragments which can only have belonged to high-footed basins of type common in the Second Period. In the same grave was a portion of an almost flat triangular dagger of copper with rounded heel, and two thin fragments of bronze (?) plate.

Grave 5.
Two
periods.

Grave No. 5 contains two distinct strata of remains. The lower consists of numerous skeletons, pottery of the First Period, flint knives, pendants of stone of various shapes, a tube of spiral copper wire, and a small piece of bronze (?) plate. The upper stratum held fewer skeletons. The furniture consisted in unpainted vases of the type of the Second Period, an 'hour-glass' cup with one handle, a stone bead, a piece of thin copper or bronze plate, and a copper dagger similar to that of Grave 4 (fig. 142).

¹ *B. P.*, xxiv, p. 191.

There does not appear to be a great difference in time between the two strata in this grave. The lower belongs to the pure First Period. The upper has strong reminiscences of that period, but also contains objects which belong rather to the second. We thus trace here the transition from the earlier period to the later, and the circumstance is a strong piece of evidence against those who wish to make an ethnological severance between the two.

Grave 6 is a shapeless rock-hewn chamber.

Graves 8 and 9 are of a new and interesting type (fig. 76). They are formed of slabs of limestone set on edge in such

Graves
8 and 9.

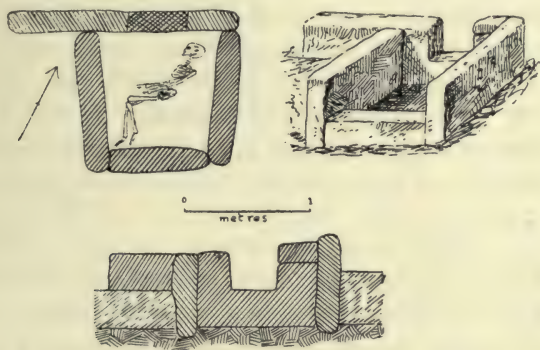


FIG. 76. So-called dolmen-grave, Monteracello. (After Orsi, *Bull. Pal.*)

a manner as to form a kind of roughly rectangular case. No. 8 is trapezoidal, and in one side a kind of window is formed by cutting a square piece out of the top of the slab that forms that side. At present the slabs project a few centimetres from the ground. Originally, Orsi supposes that the whole was covered by a mound of earth. The object of the construction was to imitate the rock-chamber, as is evident from the preservation of the 'window' or entrance.¹ The slab that closed it was found within. On the rock-floor of the grave lay the skeleton, together with a few insignificant potsherds. Grave 9 is of similar construction, but forms a rectangle 2.05 metres by 1.18

Dolmen
type.

¹ These tombs are by some supposed to have been a kind of dolmen. See Chapter XI.

metres. The height of the slabs is 62 to 72 cm. This grave had been rifled.

Hut
founda-
tion?

Close to the cemetery of the Monte Racello was found what Orsi calls a hut-foundation. In contrast with those of Italy, which are usually hollowed in the ground, this was raised above the soil. It had apparently consisted of two circles of stone blocks, the outer set on edge, the inner laid flat. Within these again was a half-circle of smaller stones, giving the idea of a low seat running round inside the hut. The greatest radius of the whole construction, which was circular, is about 3 metres. Within the circle was found a stratum containing remains of large vases. Two of these vases stood one at each end of the semicircular 'seat'. Other remains were pieces of basalt axes, flint knives, flakes of flint and obsidian, shells and a terracotta horn (cf. fig. 250). Objects similar to the last are found in deposits of all three periods in Sicily, e.g. at Castelluccio, Cannatello, and Finocchito. An example also occurs in the island of Pantelleria.

Burial in
disused
flint-
mines.
f. Monte
Tabuto.

At Monte Racello we have seen the use of artificially enlarged caves for burial. At Monte Tabuto (Map IV, 188) the dead were actually buried in disused flint-mines.¹ Monte Tabuto itself rises close to Comiso, in the province of Syracuse. In the side which slopes down to the road from Canicaras to Annunziata lie the openings of several grottoes or galleries first noticed in cutting the road. All the grottoes were formed by the extraction of a stratum of flint nodules which lies between two layers of hard limestone. The first gallery is entered by an artificial opening in the face of the rock, measuring 2·20 metres by about 1 metre in height. This penetrates the rock horizontally for 2 metres and then widens out into a spacious but low cave 7·50 by 4·50 metres, with a pillar left in the centre to support the roof. The cave when explored was almost filled with refuse and earth and fallen blocks from the vault. The lowest stratum gave a few rough sherds, some flint flakes, and a single flint knife. The upper stratum contained a mass of decomposed skeletons, in number at least forty, mixed with

Gallery 1.

Burials.

¹ B. P., xxiv, pp. 165 ff.

potsherds belonging to the First Siculan period. Orsi supposes that this cavern was used as a burial-place for workmen killed by falls of roof or by other accidents in the neighbouring mines. The presence of a single Sicilian-Geometric vase of the Fourth Siculan period is curious.

Close by the gallery just described, and originally connected with it, is a complex of three, forming a network of narrow passages. Only one skeleton was found. Remains of the flint industry were very numerous, and in addition to hundreds of flakes included ten finished knives. Vases, some entire, others completely broken, were found in extraordinary profusion. Some of these were large unpainted tubs, decorated with strips of clay in relief, and having two or four handles. These large vases were used probably to hold water, and the finer vases with painted decorations are in part cups used for drinking it. Galleries 2, 3, and 4.

The fifth gallery is in many respects the most remarkable of all. It penetrates about 50 metres into the mountain, and yet at scarcely any point is it more than a metre in height. The wide but low entrance is divided into three by two pilasters, one of natural rock and the other of artificially placed blocks. This entrance leads to a spacious chamber with natural rock-pillars left to support the roof. The floor-stratum contained rough flakes of flint, fragments of pottery, and worn-out axes of basalt. At the inner end was a skeleton in a distended position, accompanied by a spindle-whorl, an 'hour-glass' cup, some flint flakes, part of a flint knife, and a perforated shell of the genus *Cypraea*. Gallery 5.

A passage leads from here to a smaller chamber, where about thirty damaged vases were found. Beyond this again is another large chamber with rock-pillars, followed by three more which it was impossible to examine more than superficially. In the second of these about six skeletons were found immediately above the breccia which formed the flooring.

Besides the galleries already mentioned there were others of smaller dimensions. Two of these, however, appear to have been originally intended as flint-mines, but the flint failing to appear they were turned into graves. The Smaller galleries.

first, in area 2 metres by 3 metres, and 2.25 metres in height, contained about ten decomposed skeletons, with four 'hour-glass' cups, a small shell, and two flint knives. The second is much larger, and contained at least a hundred skeletons, with a single flint knife and the fragments of an 'hour-glass' cup. It must have been used as a place of burial for the poorer classes, who could neither afford a private tomb nor an allowance of funeral furniture.

The
burials.

With regard to the burials in these flint galleries in general, it may be said that most if not all of them are of about the same date as the galleries themselves. It is quite possible that some of the bodies are those of workmen killed in the mines, but we need scarcely suppose this in every case, as the disused galleries doubtless formed a cheap and convenient burial-place for the colony in whose hands the mining industry lay.

Pottery.

The presence of so many vases is curious, and it seems almost incredible that all these fine painted cups were used for the purpose of carrying water to thirsty workmen. The vases are certainly designed for everyday use, to judge from their forms, which include the *amphora* and *hydria*, shapes quite unknown in contemporary graves. As regards technique, the use of white paint should be noticed; it is laid over the usual black ornament to pick out further detail, but it is always in quite thin lines.

Method of
mining.

The galleries were hewn out with the basalt axes found worn out in considerable numbers, but it is also possible that fire and water were used to facilitate the extraction of the material. Some of the flint may well have been sent away just as it came from the mines, but some was worked on the spot, perhaps at the very mouths of the galleries, to judge by the flakes found just within them.

Burial in
circular
pits.

Even the discoveries of Monte Tabuto did not exhaust the varieties of burial practised in the period, for sometimes when the Sicilians could find no suitable rock-face in which to hollow burial-chambers they made the closest imitation they could by hollowing circular pits in the soil, and either allowing the natural rock to form a lining to them or bringing detached slabs for that purpose.

Two examples of this were accidentally found by Orsi g. Gela. in exploring the great Greek cemetery of Gela.¹ One consisted of a nearly circular pit (diameters 1.35 and 1.50 metres, depth 0.65 metre), hollowed in the soil. The bottom was covered with four thin slabs of stone, and other stones were used to solidify the sides. It contained eight skeletons with the skulls to the circumference of the pit, and in the centre a fine bichrome vase, a large flint knife, a shapeless flake, and several pieces of a heavy black stone (*limonite*). A second grave, also circular, was cut through the sandy soil to reach the rock. It contained twelve skeletons, a bichrome cup, four flint knives with some fragments and flakes, and a large number of the many-shaped stone pendants or amulets so common in the First Period.

We have now exhausted our evidence as to the burial rites of the period, and are in a position to sum up the general conclusions to be drawn from it.

General conclusions as to burial customs.

The chief distinguishing feature of the period is the advent of the rock-hewn chamber-tomb. The chamber is almost always circular or elliptic, and is entered by a small door or window. The latter is square or trapezoid, and its edges are rebated to receive the large stone which closes it. The roof of the chamber itself is vaulted or flat. In rare cases the ground-plan is square with rounded edges. Sometimes there are two chambers opening into one another, or one chamber with a recess hollowed in the wall.

1. The rock-tomb.
a. Shape.

The bodies were generally placed in these chambers in a sitting attitude, engaged upon a banquet, signs of which are seen in the setting of a large high-footed basin in the centre, and of smaller cups around it for ladling out the liquid. Each body seems to have been equipped, just as in life, with its arms and ornaments. The number of bodies found in a single grave is generally surprisingly large, and in one case it is over a hundred. It is usually supposed that the bodies were deposited in the grave when already deprived of flesh, either naturally, by a temporary burial, or artificially (*scarnimento*), for otherwise it is thought that

b. The bodies.

¹ B. P., xxvii, pp. 154 ff.

the graves would not have held such large numbers. This cannot be regarded as decisive. It must be remembered that between successive burials there would often elapse a long period, during which the previously buried bodies would have become reduced to skeletoic form. Thus, until we have more definite evidence, the case for *scarnimento* in Sicily must be regarded as not proved.

c. Method of hollowing the chambers.

The discoveries at Monte Tabuto throw some light on the method of excavating the sepulchres. The implement most used was the axe of basalt, of which several worn specimens were found. At Cava Cana Barbara and Valsavoia occurred scrapers consisting of slabs of hard and rough lava or basalt, which were no doubt used to smooth over the walls and vault of the grave after the main work had been accomplished with the basalt axes.

d. The shaft-tomb.

When a face of rock suitable for the opening of a chamber-grave could not be found, a small circular pit was sunk in a flat rock surface (cf. fig. 226). At the side of this and at a lower level was excavated the chamber, to which access was gained from a hole in the side of the pit near the bottom. The sepulchres of Ciachia, near Capaci, are of this type.¹

2. Survival of cave-burial.

At Monte Racello we find natural grottoes which have been artificially shaped to form *camera*-graves. This forms a link with the cave-burials of the neolithic *Sicani*. And indeed this latter system persists in the present period, for skeletons accompanied by pottery belonging apparently to this period have been found in the Grotta Lazzaro and in the Grotta di Pietrarossa, and also in that of Cala Farina.

3. Pit-tombs.

Finally, in the territory of Gela, where the rock is covered by a thick deposit of gravelly soil, the *camera*-grave is replaced by a shallow pit lined with rough blocks of stone.

Sim-
plicity
of the
tombs.
Excep-
tions to
this.

It is worth remarking that all the rock-tombs of the period are of very simple construction, closed by a slab of stone, and that there is no sign of the architectural embellishments which occur in the Second Siculan period. It is, however, to be noted that two of the closing-slabs in the cemetery at Castelluccio have simple spiral designs roughly sculptured.

a. Castelluccio.

¹ In the East of Sicily, however, this type apparently does not appear until the Second Siculan period.

upon their surface. Moreover, a tomb in the ravine called Cava Lazzaro¹ shows a remarkable ornamentation on its front. The burial chamber is circular, and is preceded by a wide-open *padiglione* shaped like a segment of a circle. This *padiglione* is 3.50 metres wide, 0.59 metre deep, and 0.90 metre high. In its curved sides are roughly hewn in the solid rock eight pilasters, four on each side of the door of the burial-chamber. Six of the pilasters bear at the top an incised circle with centre marked, and three are marked down the front with a fishbone pattern.² A similar arrangement of pilasters was recorded by Orsi in the tombs of the First Period at Cava Lavinaro, near Modica.³ In these cases, however, the pilasters were only five in number and were quite unornamented.

b. Cava Lazzaro.

c. Cava Lavinaro.

Although we possess so much evidence as to methods of burial in this period, we are singularly badly informed as to the homes of the living. In the village at Castelluccio no dwellings were found, and the 'hut' at Monte Racello is somewhat doubtful. Nor have we any certain evidence for stating that caves were used as habitations, if we except the doubtful case of the Grotta San Lazzaro.

Method of dwelling.

Nevertheless, the material recovered from the various sites enables us to reconstruct to some extent the civilization of the period.

Material found.

It may be said that if we except the pottery there is a great poverty of forms in this material.

The flint implements are practically limited to the old neolithic rectangular knives, of which Sicily has given beautiful examples, and the borer. The minute flaking which is so common in Italian eneolithic deposits is rare in Sicily. The flaked dagger is absent, and the arrowhead is represented in this period by occasional examples such as the two at Castelluccio.⁴

1. Flints.

Even after the rise of vase-painting and of rock-hewn graves metal did not come into common use. It is true that the continual rifling of graves has naturally played greater havoc with metal than with other materials, yet

2. Metal.

¹ *Ausonia*, 1907, p. 7.² *loc. cit.*, fig. 2.³ *Not. Scav.*, 1905, p. 432, fig. 18.⁴ *B. P.*, xix, Tav. V, fig. 25.

even the undisturbed burials point to its rarity. The cavern of Pietrarossa yielded the only flat celt as yet known in Sicily. It is of copper, rather thick, with one face almost flat and the other convex, a type common in South-East Spain. In the cemetery of Castelluccio occur two minute specimens—evidently models—of flat axes. They are of copper, narrow in the body and widening towards the blade, the sides being curved. This is a shape very rare in Italy. From the graves of Monte Racello come two copper daggers. They are roughly triangular with rounded base, two rivet-holes, and a central rib (fig. 142). One, however, at least belongs to the transition to the Second Period. In the burial-chamber at Isnello, near Palermo, was found another dagger of copper described as ‘a lancehead of rough copper, about the size of a dagger-blade of primitive form, with two rivet-holes at the base’.¹ In addition to these weapons must be noted a few small pieces of bronze or copper, conical buttons at Castelluccio, a piece of wire of quadrangular section at Isnello, and tubes of spiral wire and various fragments of copper or bronze plate.

This rarity of metal is remarkable chronologically. The period is truly called eneolithic, for the implements used are mainly of stone, and only a small number are of copper or bronze. Now on the mainland of Italy the period marked by the occurrence of pottery very similar to that of the dolmens is a period in which copper weapons play a considerable part, e.g. at Remedello and Fontanellata. In Sicily, however, this pottery, e.g. at Villafrati, is apparently neolithic, and even in the succeeding First Siculan period metals do not become at all common. This means that if the chronological evidence of this pottery is valid² Sicily must have been very backward in the use of metals, a curious fact when we remember its position.

The use of pendants of stone seems to have been general (fig. 146), and small model celts were worn in this way. The small beads of a resinous substance are not amber but a local product of an inferior kind.

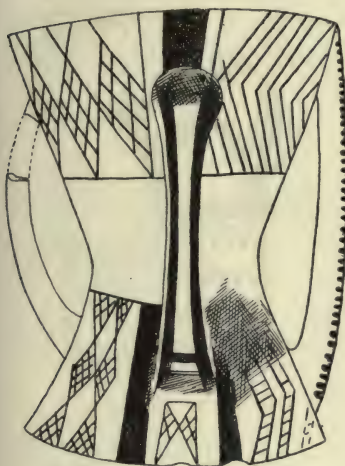
¹ *B. P.*, xxii, p. 305.

² Repeated rifling of the tombs makes this reservation necessary.

The chief features of the pottery of Period I are the almost complete disappearance of incised ornament and the advent of a series of painted ware. This latter is peculiar to the period, and vanishes almost entirely before the beginning of Period II. Thus the ware of the First Period falls at once into two classes, rough and painted.

In the rough ware the clay is coarse, and the surface-colour is a rich dark grey, which lasts throughout all four periods. There is no sign of the wheel; indeed it may be said

a. Rough ware.



77



78

FIG. 77. Early form of high-footed basin. Scale $\frac{3}{8}$. (After Orsi, *Bull. Pal.*)

FIG. 78. Painted cup. Scale $\frac{1}{2}$. (After Orsi, *Bull. Pal.*)

that until we reach the geometric ware of Period IV the wheel never occurs. In rare examples the clay burns to yellow or yellow-grey. The forms are in part those found among the painted ware, in part different and more primitive. As we shall see later, they show a considerable resemblance to those of the neolithic period as represented not by Stentinello and Matrensa but by Moarda and Villafrati.

The painted ware forms a class distinct from all others in the Mediterranean, though not perhaps without relation to some of them. The clay is pinky-yellow. On the surface is laid a slip, which is either of a dull ochre (varying to

b. Painted ware.

dirty white at Castelluccio) or of a rich dark brick-red. On this the design is painted in black or very dark brown.

Affinities
of this
pottery.

The type of ornament found on these vases will be much better gathered from the figures given (77-83) than from a long description. Suffice it to say that the motives are in the main rectilinear, though a few simple curved elements appear. The general arrangement of the design is vertical, rather than horizontal, and vertical ribs sometimes divide the vase surface into separate compartments, each of which



FIG. 79. Painted cup. Scale $\frac{3}{4}$. (After Orsi, *Bull. Pal.*)
FIG. 80. High-footed basin. Scale $\frac{1}{2}$. (After Orsi, *Bull. Pal.*)

a. Sur-
vival of
neolithic
elements.

contains a complete ornamental scheme. As Petersen has so admirably shown, this ware preserves in its ornament some of the tradition of the Stentinello and of the Moarda pottery.¹ But there are other decorative elements which

b. Foreign
elements.
Whence
did they
come?

cannot be explained in this way, and which seem to be new to Sicily in this period. The use of paint itself is a novelty. Whether it was discovered in the island we cannot say, for the rough coloured sherds of the Cala Farina cave are not sufficient to represent an early stage in a locally invented system. That is to say, the painted ware appears suddenly in full perfection. Knowing as we do the close

¹ *Röm. Mitth.*, xiii, 1898, pp. 180-6.

connexion of Sicily with the Aegæan at this period, we shall find no difficulty in supposing that the use of paint was introduced from somewhere in that area or near it. Fresh discoveries in Sicily may, however, at any moment occur to make this external explanation unnecessary.

It is natural to look to the Aegæan, as being an early home of painted pottery, in the hopes of finding the origin of some of the Sicilian ornament. From Crete, perhaps rather unexpectedly, we get little satisfaction. No type of Minoan ware hitherto known shows much affinity to the Sicilian, and as yet no Early or Middle Minoan vases or fragments have been found in Sicily. The Aegæan?



FIG. 81. Painted jar. Scale $\frac{1}{16}$. (After Orsi, *Bull. Pal.*)

FIG. 82. Painted cup. Scale c. $\frac{1}{4}$. (After Orsi, *Bull. Pal.*)

FIG. 83. Painted 'hour-glass' cup. Scale $\frac{2}{5}$. (After Orsi, *Bull. Pal.*)

In North Greece, however, has of late been discovered a type of pottery which shows greater affinity with this Sicilian ware than does any Aegæan pottery. This ware was first found by Tsountas at Sesklo and Dimini, in Thessaly, but the first published examples were those found by Soteriades at Chaeronea.¹ The ware is for this reason usually known as Chaeronea ware. It has since been found by Messrs. Wace and Droop at Zerelia, in Thessaly,² and is also believed to occur around Pharsala. In fact it seems to have quite a wide distribution in Thessaly and North Greece generally. The vases are covered with a white

¹ *Ath. Mitth.*, 1905, p. 115; 1906, p. 392. 'Ep. 'Apχ., 1908, pp. 63-96.

² To be published in *B. S. A.*, xiv. *Liverpool Annals of Anthropol. and Arch.*, i.

or pinky-yellow slip, on which the patterns are carried out in a bright red. We have already seen that this ware was probably imported into South Italy in the late neolithic period, for at Molfetta we have fragments which resemble it very closely in colour and pattern, though the clay seems to be somewhat different.

Now it is perfectly natural that, if this pottery came across the Adriatic to Molfetta, it should also find its way to Sicily, and, though it has not yet been found there, I suggest that either it or a type of pottery closely allied

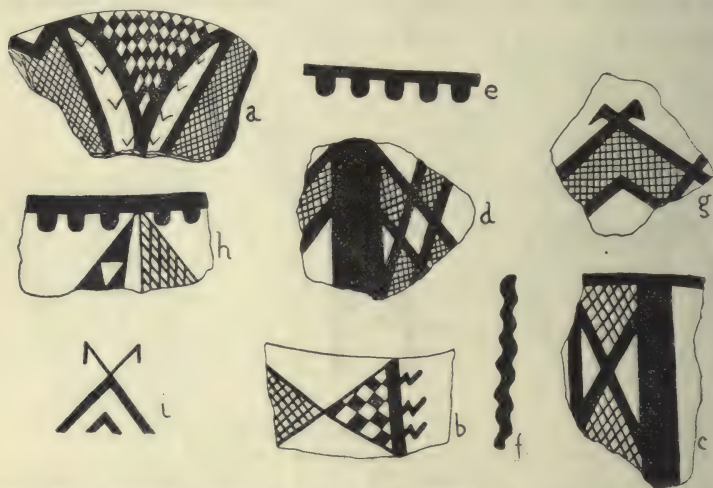


FIG. 84. Typical painted patterns from Sicily and Chaeronea; (b), (h), and (i) from Chaeronea, the rest from Sicily. (Partly after Orsi, *Bull. Pal.*, and Soteriades, *Ath. Mitth.*)

to it, was imported into Sicily and influenced the painted ware of the island to a considerable extent.

Similarities between Sicilian and Chaeronean wares.

We may notice, in the first place, that there is a similarity in the colour-schemes of the two wares. Chaeronean ware is carried out in red or reddish-brown on a light yellow or white background, and in Sicily we find dark-brown on a similar background. The brick-red surface often seen in Sicily does occur at Chaeronea, but only in monochrome ware. It is fair to notice that the Sicilian ware is far inferior in technique. The clay cracks on the surface, and the colours tend to peel off or fade away.

Coming to the ornamental system (see fig. 84), we note that in the Chaeronean ware the designs generally run round the vase in a horizontal direction.

In the Sicilian vases the ornament is usually arranged vertically within frames, but in some of the simpler vases where there is less ornament the arrangement is horizontal.

Common to both types of ornament is the use of cross-hatched surfaces and of the chessboard pattern; common to both is the peculiar custom of using both these in juxtaposition on the same vase (cf. fig. *b* from Chaeronea, after Soteriades, with fig. *a* from Sicily). In both we find that much of the effect is produced by the crossing of lines or bands. Note, for example, the opposed triangles in fig. *b*, and compare them with those in fig. *c* from Sicily; or, again, the very common Sicilian motive of two hatched-bands crossing roughly at right-angles (fig. *d*), a scheme equally usual at Chaeronea; and note in both cases the thickening of the outer lines. In the Sicilian pottery, too, we find that curious incongruity so characteristic of Chaeronean as of all Balkan pottery. In both cases we find fragments from which it is almost impossible to imagine how the design was completed. Sometimes a pattern in itself symmetrical is ruined by the reasonless juxtaposition of an element which is out of all keeping and relation with it. A mild example of this is seen in the Chaeronean fragment (*b*) above, where ridiculous little zigzags are attached to the base of the chequered triangle, and fig. *a* from Sicily is a fairly close parallel, both in spirit and letter. Note, finally, the coloured semicircles (fig. *e*), the vertical *tremolo* (*f*) (Sicily), and the crossed flags (*g*), all of which can be exactly paralleled at Chaeronea, e.g. (*h*) and (*i*).

This is evidence which cannot be overlooked, and we surely do not go too far in affirming that the origin of the Sicilian ornamental system is in some way closely connected with that of the Chaeronean. That Chaeronean or similar ware was imported into Sicily and influenced Sicilian taste we cannot yet prove, but it is far from improbable. There are, of course, elements in Sicily which are absent in Chaeronea, and these no doubt represent the inventions of the native artists.

Con-
nexion of
Sicilian
with
North
Greek
wares.

c. Incised
ware.

Whilst dealing with the early wares of Sicily we must not forget to notice a type which comes under neither of the headings yet treated. It consists of vases ornamented with incised lines bordered by a row of punctures. A few good examples occur at Capaci and Villafrati, where they are associated with incised ware of dolmen type belonging to the later neolithic period (figs. 39-41). Other examples come from Paternò, whence, also, we have fragments of Molfetta-Stentinello type, though we do not as yet know the relation between the latter and the punctured ware. Finally, the same type of ornament is to be seen in the material from the cave of Cala Farina, associated with fragments incised with rough scratches and smeared with



FIG. 85. Incised and punctured potsherd, Cala Farina. Scale $\frac{1}{2}$.

bands of red paint (fig. 85). Orsi himself is rather puzzled by both these types of decoration, which he is inclined to put at the very beginning of the First Siculan period.¹ We must for the present suspend judgement until the excavator is able to publish the similar material from the *fondo* Jozza at Gela,² 'pottery of a character completely foreign to that of the First Siculan period.' At any rate, the type of ornament in question would appear to lie on the borders of the neolithic and the First Siculan periods (early metal age). The great importance of this type of ornament is its survival or revival in the Second Siculan period.

It is remarkable that this Sicilian civilization differs

¹ *B. P.*, xxxiii, pp. 7 sqq.

² Now being published in *B. P.*, xxxiv.

completely from that which flourished contemporaneously on the mainland. In Sicily the rock-grave is almost universal—in Italy it is rare, and in the North absent. In Sicily the industry of flint-working is at a standstill—in Italy it is moving to its highest perfection. In Sicily the pottery is painted—in Italy it is plain or incised. In Sicily the arrowhead and dagger of flint are practically unknown, even in graves—in Italy they are the almost invariable accompaniments of the dead. And these contrasts could be added to. They prove beyond doubt that at this time, as indeed at most times, Sicily lay in the line of different trade-routes from those which affected Italy, or at least Upper Italy. We shall have in a later chapter to consider what these trade-routes were, and we shall find that the differences noted here are in a great measure to be accounted for by geographical reasons.

Several cemeteries appear to belong to a transition from the First to the Second Siculan period. The most important of these is that of Valsavoia¹ (Map IV, 173). Here the graves were of such imposing size, and had so many characteristics of the Second Period, that Orsi was surprised to find that the greater part of their contents belonged to the First Period. The actual burial-cell, which was circular or square, was preceded by an antechamber, usually of elliptical form, and this again by a very large approach or *padiglione* almost entirely open to the sky. These *padiglioni* were of such dimensions as to resemble small courtyards, and Orsi thinks that, besides serving the usual purpose of collecting and draining off rain-water from the tomb, they may have been used for certain of the funeral ceremonies.

At Cava Cana Barbara (Map IV, 174) a somewhat similar cemetery was discovered.² The tombs were about thirty in number, but the *padiglioni* were not on the same vast scale as at Valsavoia. Much of the pottery belonged to the First Siculan period, and included several new forms. Some of it, however, was of the Second Period type, and to

¹ B. P., xxviii, p. 103.

B. P., xxviii, p. 184.

Contrast
between
Sicily
and
Italy.

Transi-
tion
period.
a. Valsa-
voia.

b. Cava
Cana Bar-
bara.

the same date must be assigned beads of glass-paste and several objects of bronze. It is noticeable that one of the tombs contained a vast number of skeletons, probably over a hundred. Objects of obsidian were rather frequent.

c. Rivetazzo.

A third cemetery of the same kind is that of Rivetazzo¹ (Map IV, 186), where the First, Second and Third Sicilian periods are all represented. The tombs were mainly of the type common in the First Period, but the existence of niches and stone head-rests, and the small number of bodies in each tomb, point to influences of the Second Period. One tomb contained a fibula of the Third Period. Most of the pottery belonged to the Second Period.

d. Barriera.

Finally, we have traces of the transition not only in cemeteries but in habitations. Orsi examined seven caves near Barriera² (Catania) (Map IV, 172), and found numerous signs of occupation, including pottery of the First and Second Periods actually mixed together in the same stratum. Not far away from the caves were found traces of circular huts, which yielded the same mixture of material from the two periods.

e. Calafarina.

Even more interesting is the cave of Calafarina, near Pachino³ (Map IV, 200). It was used as a habitation by the Sicilians of the First and probably of the Second Period. It had also served as a burial-place, for four skeletons were found, two of which probably belong to the First Period, while the other two cannot be safely dated. The pottery included fragments belonging to both periods. But the greater part of the pottery of the cave belongs to a type previously unknown in Sicily. It is rough and baked in the open. The surface is usually grey or blackish, and in some cases is polished. Sometimes we find an incised line bordered by points (fig. 85), or parallel incisions made by a rough kind of comb. These incisions occasionally have a white filling. Finally, we find attempts at producing on the vase bands of red colour. Orsi asks whether this roughly coloured ware marks the earliest phase of the painted pottery of Period I, but he decides that until

¹ *B. P.*, xxix, p. 23.

² *Not. Scav.*, 1898, p. 222.

³ *B. P.*, xxxiii, p. 7.

further evidence is forthcoming the question must remain unanswered.

The island of Pantelleria belongs geographically to Africa B. PAN- rather than to Italy. At the same time its importance TELLERIA. is very great, since it forms a kind of natural bridge by which all connexion between Sicily and Africa would naturally pass. Early in 1895 Orsi carried out an examination of the prehistoric remains on the island, and it is to his efforts that the following results are due.¹

The prehistoric village of Mursia lies on a hill of roughly 1. Mursia. circular shape. On the side nearest the sea this hill is so steep as to need no artificial fortification. On the land side it has been protected by a semicircular wall. This, which is 7 or 8 metres in height, consists of a casing of large unworked blocks with a filling of smaller stones. It is more a rampart than a true wall, for its sides lean at an angle of about 45°.

Within the village were found remains of habitations. a. The huts. These were apparently huts of rectangular form, the lower part of whose walls consisted of several courses of flat stones. Within these huts were found fireplaces and remains of everyday life. These remains consisted partly of animal bones split longitudinally, and partly of worked objects. Eight objects of bone, chiefly borers, were found, and several mortars of lava. Particularly interesting are b. Stone objects. six spherical objects of sandstone, a rock unknown in the island. These were doubtless used as grinders. Flint, both natural and worked, is unknown, but obsidian was worked in large quantities in the village. The implements produced are almost palaeolithic in appearance. Many are worked on one side only in the *Moustérien* manner, and fine flaking is unknown. Knives and scrapers are the most recognizable implements; arrowheads are completely lacking.

Pantelleria appears to contain no deposits of clay, and c. Pottery. that used in the village must have been imported. It is

¹ *Mon. Ant.*, ix, p. 480.

pure, and mixed with fine sand to increase its cohesive power. The baking is even and the surface colour is brown, varying towards black on the one hand and yellow on the other. In some cases a slip was applied and the surface then polished. Ornament is practically unknown, being represented by a single example of incised dog-tooth. The shapes are simple, and resemble in a remarkable degree those of the First Siculan period in Sicily. Particularly to be noted are the tall handle, the horn-shaped handle, the high-footed vase, the basin of inverted-cone shape, and the pottery horn.

Of greater interest even than the village are the numerous

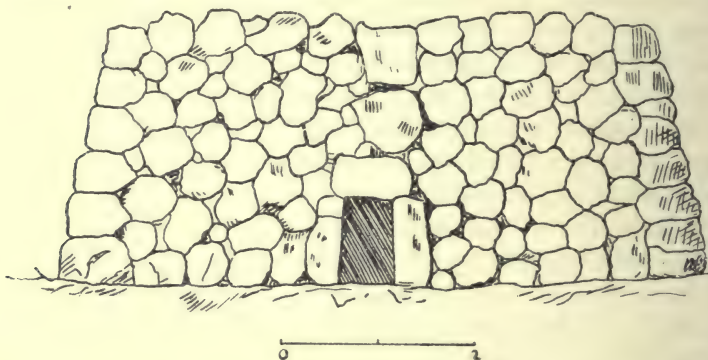


FIG. 86. *Sese*, Pantelleria. (After Orsi, *Mon. Ant.*)

2. The *sesi*.

sesi which occur in that part of the island known as Le Cimetie. The number examined by Orsi amounts to fifty-eight, and others have been already destroyed. The *sesi* consist of structures of elliptical, rarely circular, plan, in the form of a truncated cone or a segment of a sphere (fig. 86). The outer casing is formed of very large blocks of volcanic stone, showing no sign of having been worked with metal tools. The filling is of smaller stones equally unworked. These *sesi* have usually a major diameter of from 4 to 12 metres. In the casing are seen several low openings, leading each into a short gallery which ends in a *tholos*-shaped chamber. Each *sese* may contain from two to a dozen of these chambers, which are cased with large

blocks. Thus the *sese* itself is a solid mass of masonry, except for the chambers and the galleries leading to them. It was in these chambers that the dead were laid, unburnt, one in each chamber, apparently accompanied by vases and obsidian implements. The largest of the *sesi*, the Sese Grande, measures 20 metres by 18 metres, and is 6.75 metres in height. It contains twelve chambers, the galleries of which range from 4 to 7 metres in length.

The material found in the *sesi* is precisely similar to that from the village of Mursia, and we can hardly doubt that they were the graves of the people whose huts were found in the village. As regards the question of date, everything points to the neolithic age, for not only does metal fail to appear, but the stone implements are of very elementary types. It is to be remembered, however, that the amount of material is as yet small, and does not allow us to say with absolute confidence that we are dealing with an age in which metal is unknown. The position of this civilization among the others of the same age will be considered in dealing with megalithic monuments in general.

The few details known with regard to the neolithic age C. SAR-
in Sardinia have been given already. With the eneolithic DINIA.
period the pre-history of the island begins to be clearer, though even here the evidence is scanty. This scarcity Variety
of evidence is the more remarkable as there exist on the of
island numerous remains of very various types, inhabited remains.
caves, rock-tombs, 'Giants' Graves,' dolmens, *menhirs* and *nuraghi*. Unfortunately the island has been neglected by archaeologists, and scientific research and excavation are still in their infancy.

Of these plentiful remains the *nuraghi* first call for treat- The
ment, for upon our view of them will depend our main *nuraghi*.
ideas of the civilization of the island.

They form a remarkable feature of the Sardinian landscape. They consist of towers which are now of truncated-conical Their
form, built with a clay mortar, of blocks varying considerably form.
in size, but often rather large (fig. 87). Sometimes erratic a. The
outer cas-
ing.

blocks found on the spot were used, and the masonry has then a rough appearance ; at other times rock with a fixed line of cleavage was employed, and the blocks fell naturally into horizontal layers. Usually the stones were artificially squared, especially those used in the upper courses of the

b. The door. more complicated *nuraghi*. The *nuraghe* is entered by means of a rather low door, about a metre and a half in height, the lintel of which consists of a single block of stone.

c. The main chamber. A narrow corridor leads through the immensely thick wall into the main chamber of the structure (fig. 87 a). This room is circular in plan and is roofed by splaying the face of each course of masonry in its wall, so that the whole wall forms a dome with a small hole at the vertex, closed by a slab. Sometimes this chamber is provided with two or even three niches or recesses in its wall, one lying opposite the door, and the other two one on each side of

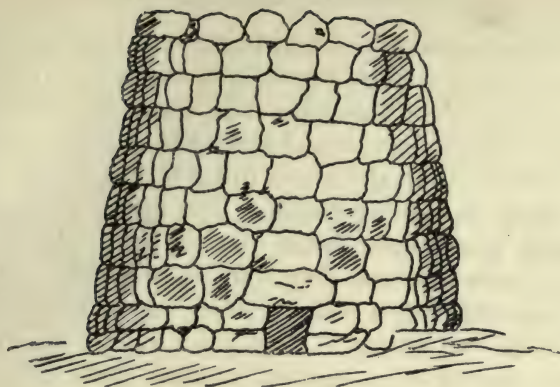
d. The corridor. the room (fig. 87 c). Returning to the entrance corridor we notice on our left as we pass out a deep recess (c) in the wall, in which a man could stand with comfort. About opposite to this, on the other side of the corridor and often at some height from the ground, is an opening leading to a winding staircase in the wall of the structure (d), by which one gains access to a second chamber, vertically above the first and similar to it, though smaller. In some *nuraghi* there are traces of a third chamber still higher.

e. The upper chamber.

Such is the *nuraghe* in its simplest and most usual form. In size it varies considerably. Its diameter sometimes attains to over 10 metres.

Complicated *nuraghi*.

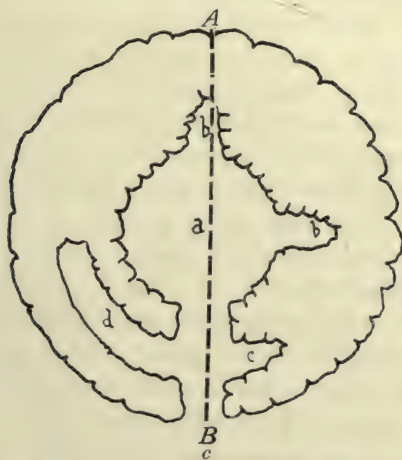
Frequently *nuraghi* of more complicated construction are found. In some cases the building itself is set upon a raised circle of earth, held by a retaining wall. In the *nuraghe* of Prana Omus is seen a construction which is by no means uncommon. The door of the *nuraghe* is enclosed by an elliptical wall of nearly the same circumference as the *nuraghe* itself, which it joins on each side of the door. Thus the door is preceded by a kind of walled courtyard, which it would be necessary to storm before attacking the *nuraghe* itself. The *nuraghe* of Aras shows a similar construction which is still 2 metres in height. More complicated is the



a



b



c

FIG. 87. Typical *nuraghe*; elevation, section and ground-plan. (After Pinza, *Mon. Ant.*)

nuraghe of Ginerreddu. Several metres in front of the door is built another solid tower with a central chamber, but with a passage right through. The space between the two towers is enclosed by two huge walls running from one to the other. Thus the outer tower served as an outpost to the inner or *nuraghe* proper. The *nuraghe* of Addeu is built on a semicircular basis of stonework, the diameter of which passes across the front of the door. At each end of this diameter is a stone tower with a loophole, built to command the entrance from both sides. The *nuraghe* of Losa consists of a central *nuraghe* and three others round it, all included in a stone casing of triangular section, and protected by several outlying forts and a system of walls. In the ruins of this *nuraghe* Nissardi found blocks splayed in such a way that they could only have formed part of a domed roof covering the whole *nuraghe*.

Object
of the
nuraghi.

The object with which the *nuraghi* were built has long been a matter of dispute, and has given rise to the most widely divergent theories. Until lately very little scientific work on the subject had been done, and the first attempt to deal with the subject on a large scale was Pinza's article

1. Pinza's
view.
2. Nis-
sardi.

in *M. A.*, vol. xi. Here Pinza expressed his conviction that the *nuraghi* were graves. In 1903, however, Nissardi read a paper to the International Congress at Rome, in which he produced overwhelming evidence against this view, and this work was followed by the publication in *M. A.*, vol. xviii of more material, from the Giara district, by Nissardi and Taramelli.¹ Much of the evidence produced to show that the *nuraghi* were fortified dwellings is due to careful geographical observations regarding them, to which Nissardi has devoted several years of close study.

Nuraghi
fortified
dwellings.
Proofs of
this.

a. Their
position.

It was found that they always stand in lofty situations, surrounded by stretches of plain country. They form, in fact, a regular system of defence. Each is in sight of its nearest neighbours, and each defends some likely point of attack. In those places which may be called the strategical keys to the district were found the largest and strongest *nuraghi*, built with larger stones and possibly

¹ Cf. also Taramelli, in *Memnon*, Band II, Mai, 1908, pp. 1-35.

earlier than the rest. It would seem more than a mere coincidence, too, that each *nuraghe* is close to a stream or spring of good water.

Besides this, several features of the construction of a *nuraghe* can only point to its being a fortified dwelling. The enclosed courtyard which almost always, in the Giara, protects the entrance door, the existence of flanking towers in one example, of loopholes in the towers or in the *nuraghe* itself, the difficulty of access to the interior, owing to the lowness of the door and the steepness of the approach, and the difficulty in some cases of the ascent to the upper story. The door, though never lower, in a measurable example, than 1.35 metres, is never much higher, and an enemy would, in entering, have to bend his head, and so lay himself open to attack. In the *nuraghe* of Su Cadalanu the shape of the blocks used for the doorposts was such that the height of the opening reached 1.98 metres. But, in order not to deprive the door of its defensive value, its breadth was reduced to 0.55 metre, thus forcing any one who entered to turn sideways. Close within the doorway the corridor is slightly enlarged to allow, in case of need, the closing of the entry *from inside* by a large slab of stone. In a few cases this slab was found close by, and in one *nuraghe* there were grooves in the side wall and pavement to allow it to fit like a portcullis. We have already mentioned that the staircase leading to the upper story was reached from the corridor by a hole often placed high above the ground. In the *nuraghe* of Oschina this hole lay at a height of 2.90 metres from the floor of the corridor. In almost every *nuraghe* there lies opposite this opening, in the opposite wall of the corridor, a large niche or recess. The object of this was to hold a man who, from this secure position, could command the approaches both to the lower and the upper chamber.

All these features can only be interpreted as parts of an elaborate system of defence. This is often borne out by the position of the structure. The *nuraghe* of Oschina stands on the edge of a sheer face of rock, 5 metres deep, while the other side where the ascent is more gradual is defended

b. Defensive constructions.

The doorway.

The staircase.

c. Natural defence.

by a strong wall. Several *nuraghi* of the Nurra district lie in the midst of marsh- or flood-lands.

d. *Nuraghe*
people
buried in
rock-tombs
and
'Giants'
Graves'.

Other considerations show that the *nuraghi* were not tombs. In close proximity to them are almost always found two types of tomb, the 'Giants' Graves' and the rock-hewn graves, which almost indubitably belong to the same period. This alone is enough to throw suspicion on the belief that the *nuraghi* are themselves graves. But further, Nissardi notes the remarkable fact that, while the graves of both types have the most variable orientation, all the *nuraghi* in which he has been able to determine the original form have the door and also the window of the upper chamber carefully turned away from the north winds.

Several *nuraghi*, e.g. Mattacciosa and Abbameiga, concealed springs of drinking-water.

e. Signs of
habitation.

Bezzenberger notices an interesting fact with regard to the staircases of some *nuraghi*, namely that the stones are quite smooth with daily use by people passing up and down. 'In the *nuraghe* of Losa this was particularly the case with those on which I laid my hands in mounting the stairs.' In the *nuraghe* of Bara, too, some of the stones were so polished that in the half-light he fancied them to be wet. Finally, it is a significant fact that the *nuraghi* of Lugherras and Palmavera, where the interior of the building and the enclosure were excavated, both yielded nothing but the remains of daily life, fireplaces, split bones, pottery &c. It is interesting to observe that stone buildings of very similar form are still inhabited by the peasants in some parts of Apulia. They are in the form of a truncated cone, and the inner chamber is lighted only from the door. There is, however, no upper story. These dwellings are known by the local name of *truddhi*.

f. Actual
remains of
habitation.

g. Similar-
ity to the
modern
truddhi.

h. *Nuraghi*
centres of
villages.

Nissardi notes that those *nuraghi* which lay in the fertile tracts of the country were surrounded by ruins of stone buildings of circular and rectangular form. These, known as *biddazze*, he holds to be contemporary with the *nuraghi*, and to be the remains of the villages of which each *nuraghe* formed a centre. Thus each *nuraghe* would be probably the fortress of the head of the tribe, the centre, perhaps, of the

tribal religion, the place of custody for all they possessed that was valuable. The question of date must be regarded as still uncertain. As there are several thousand *nuraghi* on the island it seems probable that their erection must have extended over some length of time, but until further excavation has been carried out we can only refer them roughly to the bronze age.

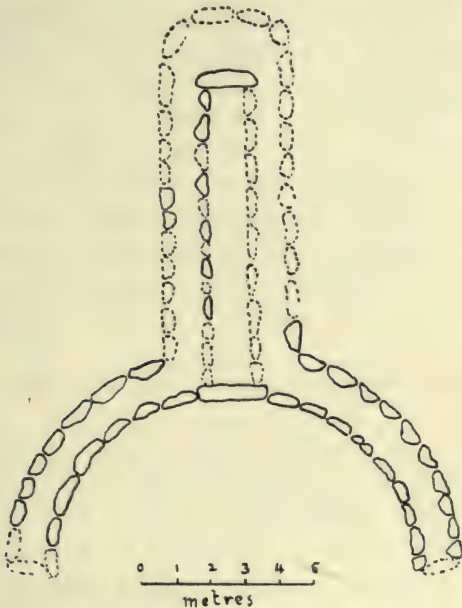


FIG. 88. 'Giant's Grave,' Sardinia. (After Mackenzie, *Ausonia*.)

The graves in which the people of the *nuraghi* buried their dead seem to have been of at least two types, rock-hewn sepulchres and *Tombe dei Giganti*. The latter, whose connexion with the *nuraghi* may now be taken as definitely established, are in all probability a development of the simple dolmen.¹ The earliest consist of a rectangular chamber enclosed by large slabs of stone set on end, and roofed over with similar slabs (fig. 88). At a short distance outside the wall of the chamber, and parallel to it, runs

Tombs
of the
nuraghe
people.
1. 'Giant
Graves.'

¹ See Mackenzie's full treatment of the subject in *Ausonia*, 1908, p. 18.

another wall of slabs. The space between these two walls was filled with earth, and the whole was probably covered with a mound of soil. The entrance to the corridor was closed by a large slab of stone, sometimes rectangular in form, sometimes with an oval top, and with a margin sculptured in relief. At the bottom of this slab was a small hole or *finestrino*. The chamber is sometimes as much as 18 metres in length, and each tomb must have served as a place of burial for an entire family (fig. 88). From the entrance branch off two wings, prolongations of the double walls of the corridor itself. These form a kind of semicircular approach to the tomb. In some of the later examples of these graves the walls of the corridor are composed not of slabs set on end, but of courses of blocks laid with clay mortar, each of the courses, except the three lowest, projecting inwards slightly further than the last, in such a way that the chamber narrows towards the top. But even in these cases the roofing is of large blocks laid across the top.

2. Rock-tombs.

Besides the *Tombe dei Giganti* rock-cut tombs were used for burial.

Usual types.

In various parts of the island are found small groups of tombs hewn in the solid rock.¹ The entrance is usually in a more or less vertical face of rock. The simpler forms of these tombs are two. The first consists of a circular or slightly elliptical chamber with a concave or *tholos*-shaped roof—the so-called oven-form, *sepulcro a forno*. The chamber is preceded by a short *dromos* or corridor of access, rectangular in form (fig. 90). The other simple form consists of a rectangular chamber with flat roof preceded as before by a corridor. From the first form develop graves consisting of several elliptical or circular chambers one behind another; from the second are derived graves in which the rectangular chamber is entered not directly from the corridor but through an antechamber. Another variety of the second type consists of a large rectangular chamber, entered directly from the corridor, and having a smaller chamber behind it. In some cases the types are

¹ See *Mon. Ant.*, vol. xi, p. 38.

mixed, and we find a rectangular chamber with a circular antechamber, or the reverse (fig. 89). When the face of rock in which the grave is cut is not perpendicular but slopes at an angle, the entrance corridor is naturally only partly roofed. The true burial-chamber is often provided with circular niches in its sides. The door is usually plain, but in one case it is semi-elliptical and rebated round the edge.

Few reliable excavations have ever been carried out in these rock-tombs, and we have very little evidence as to

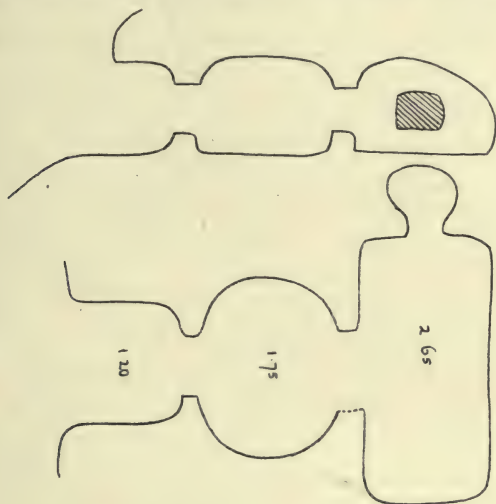


FIG. 89. Rock-tomb, Sardinia; section and plan. (After Pinza, *Mon. Ant.*)

their date. In Sicily the circular form certainly dates back to the eneolithic period, while the rectangular form is later. But we have no proof that the same is true of Sardinia. In fact it is dangerous to press a parallel between the two islands, for there are many remarkable differences.

A rock-hewn tomb near Bunannaro, consisting of a large rectangular chamber with a smaller one behind it, contained two skeletons, and with them several vases and a ring said to be of bronze. The vases resemble in form those of the caverns of Cape S. Elia, which are attributed, in

Bunan-
naro.

part at least, to the eneolithic period. If the ring really be of bronze this burial must belong to the bronze age, and we thus have evidence that the forms of vases in use in the eneolithic age survived into the bronze period.

Date.

To judge by comparison with the rest of the Mediterranean it would seem probable that the rock-tombs of Sardinia date partly from the eneolithic age, and also cover part

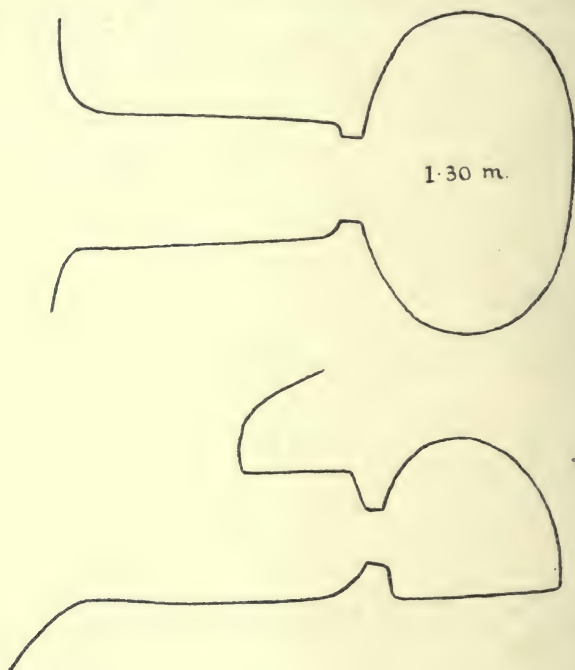


FIG. 90. Rock-tomb, Sardinia; section and plan. (After Pinza, *Mon. Ant.*)

of the succeeding age of bronze. One group of eneolithic tombs, however, we are in a position to date with comparative certainty.

At Anghelu Ruju (Map I, 65), near Alghero, Taramelli excavated a number of rock-hewn graves.¹ They were remarkable for the number of chambers of which each consisted. They were entered by a corridor cut in a sloping

¹ *Not. Scav.*, 1904, p. 301.

Rock-
tombs at
Anghelu
Ruju.
a. Form.

face of rock, or, where the rock surface was horizontal, by a shaft which was generally made long so as to preserve the rectangular form of a corridor. The arrangement of the tombs is complicated and irregular. Sometimes several chambers open off a central corridor, while in others a roughly rectangular chamber forms the central feature of the scheme. The doors consisted originally of single blocks of stone. Rectangular and circular or elliptical cells are found side by side even in the same tomb. Niches occur but rarely. The large number of the chambers in each tomb made it unnecessary to bury many people in each, as was done in Sicily. The number of skeletons seldom exceeded ten in a single cell.

All these graves had been rifled in antiquity, but the objects which still remained are enough to assign them to the eneolithic period. Of flint and obsidian there were rectangular knives and triangular borers or spearheads. Most important are several finely-worked flint arrowheads of eneolithic type, hitherto rare in the islands. Of copper or bronze must be noted a triangular dagger with a toothed tang, similar to that from the San Bartolomeo cavern, and to another from Santa Cristina (fig. 134), and two awls of the usual eneolithic shape. The ornaments formed an interesting series. They included small polished stone axes with a suspension hole, beads of quartz or limestone, pendants of slate and steatite, *brassards* of limestone, pierced shells of *Natica* and *Pectunculus*, elliptical ornaments cut from the valves of *Cardium* and *Pectunculus*, and club-shaped pendants of bone.

The pottery is important. The finer ware is covered with a slip, fired to a fine red colour, and brightly polished, and is said by Taramelli to resemble the red ware of Pantalica in Sicily. The more ordinary ware is seldom polished.

The ornament is sometimes rough, and is made by marking the surface with a *stecca* or piece of stick, so as to form a series of rough pits. At other times it is much finer, consisting of careful incision, parallel lines and zigzags, bands containing simple or double hatching, or, very commonly, dog-tooth patterns filled with punctures. A

bell-shaped cup is ornamented with horizontal bands of punctuated work.

Among the chief forms are the bell-shaped cup, the basin standing on three feet, the flattened-ovoid flask with cylindrical neck, and the small biconical jar. Many of the vases have discoidal lids. A vase pierced with holes like a colander is a novelty for Sardinia.

This pottery mainly belongs to the same context as that of the Cape Sant' Elia caves. It is of the eneolithic period of what is often called dolmen-type, but it seems to contain more neolithic elements than are usual among pottery of this kind. Taramelli in his report of the excavations scarcely does justice to this point of view. It is very probable that in the neolithic period Sardinia had a type of incised ware similar to that of South Italy. Thus the *tremolo* pattern so common in South Italy, e.g. at Molfetta and the Tremiti Islands, occurs in Sardinia in the Cape S. Elia caves, and in a kind of *kjökken-mödding* close to them.¹ The Anghelu Ruju pottery seems to me to be a combination of this kind of ware—related probably to the Cretan neolithic ware—and a ware of entirely different origin, dolmen ware, introduced into the island much later, apparently without entirely displacing the old. This explains why Taramelli is able to compare his pottery as a whole with two utterly different types, Cretan neolithic, and French and Iberian dolmen ware.² With the so-called 'Siculan' ware of the Pertosa cave and elsewhere in South Italy, it seems to me, despite Taramelli's comparisons, to have no connexion whatever.

Date
of the
nuraghe
civiliza-
tion.

The date to which this civilization of the *nuraghi* is to be attributed is difficult to determine, as we have so little material whose provenance we can trust. All we can say is that, although it may have reached its highest development in the bronze age, it certainly flourished in the eneolithic period.

Cave-
burial.

At the same time the custom of dwelling in villages with a *nuraghe* as centre was not universal at this period, for in the Cape S. Elia (Map I, 69) have been explored two

¹ *Not. Scav.*, 1904, p. 30, fig. 5.

² *Not. Scav.*, 1904, pp. 315-16.

caves, those of Sant' Elia and San Bartolomeo, which were certainly used for burial.

Orsoni, in describing the excavations in the cavern of San Bartolomeo, distinguished three strata in the deposit. ^{San Bartolomeo cave.} The lowest contained a quantity of charcoal and ashes, with objects of stone and obsidian, potsherds and bones, many of them human. Some of the human bones were marked with cutting instruments, others were partly burnt. In the same stratum were several skeletons carefully placed, and accompanied by a considerable funeral furniture including vases, some with black polished surface, objects of bone, polished stone axes and implements of obsidian. The middle stratum of the deposit was separated from the lower by a layer of large stones perhaps fallen from the roof. It contained human remains very badly preserved, a polished axe, objects of bone and obsidian, and primitive copper implements (figs. 122 and 143). The pottery, always as in the lower stratum placed upside down, is covered with ornament carried out in punctured or incised lines filled with some white substance (fig. 154). Specially to be noticed are bowls fitted with three low feet (Pl. II, fig. 8). The upper layer of the deposit had been much disturbed by later burials.

There is some doubt as to the chronology of the various strata, but Colini, after a careful examination of the material, found that the whole deposit with the exception of the disturbed layer at the top was practically uniform. The civilization represented is similar to that which, at the end of the neolithic period, flourished in various parts of Western Europe, and has left its remains in the megalithic monuments and artificial rock-chambers of France, Spain and elsewhere. The Sardinian material is especially close to the so-called megalithic in the matter of pottery, for, in addition to showing the white-incised or punctured technique, it includes fragments of a bell-shaped cup, which, as we have seen, is typical of the megalithic culture in almost every region where it appears.

The cave of Sant' Elia, close to that just described, ^{Sant' Elia cave.} contained very similar material. In the lower strata

were found human bones which showed slight traces of fire, but those of the upper strata were often half and sometimes completely burnt. The deposit belongs to the eneolithic period, and is quoted by some as proving that even at that early date cremation was not unknown in Sardinia.

Settle-
ment in
the open.

The
'dolmen'
civiliza-
tion in
Sardinia.

Near Monte della Pace, north-west of Cagliari, were found settlements in the open. The material found included remains of hearths, edible salt- and freshwater shells, animal bones, pottery, and implements of stone, especially obsidian. The material, particularly the pottery, resembles so closely that of the caverns as to render probable the hypothesis that the people who lived in the settlements and those who buried in the caverns were one and the same. The most important fact with regard to the early age of metals in Sardinia is the high development which the so-called dolmen-civilization attained in the island. Not only have we the dolmen itself in its simple and developed forms, but we have also the very finest examples of the incised pottery associated with megalithic monuments in several parts of Western and Northern Europe. In Italy itself this pottery is rare, and some of the few examples found are of such poor appearance that they may be attempts at copying imported vases. Certainly the potters of the mainland do not seem at home with this type of ornamentation. Is it, then, too hazardous to suggest that this high civilization in Sardinia was not without its effect on the Italian mainland—in fact, that Sardinia was at this time a centre of culture by which the civilization of the dolmens was in part diffused throughout Central and North Italy, which at this moment were more backward than the island?

D. PIA-
NOSA.

In the Island of Pianosa (Map I, 40), are found natural caverns used for the burial of the dead.¹ Sometimes they were adapted to this use by being artificially shaped or enlarged. Usually each cavern contains the bones of several

¹ *B. P.*, xxiv. p 281.

individuals buried at different times. The objects found with the dead are implements of flint and obsidian, and fragments of pottery. These last are of two types, rough and fine. The fine ware is of black purified clay, and is ornamented with white-filled punctured designs, similar to those of Sardinia. This, together with the fact that one of the skulls was marked with oxide of copper, shows that some, at least, of these burials belong to the eneolithic period.

CHAPTER X

ENEOLITHIC MATERIAL

Eneo-
lithic
material.

IN Chapter VIII we defined very shortly the chief characteristics of the material found in eneolithic stations. We must now examine that material in greater detail. In the matter of classification we have, in the main, adopted that followed by Colini in the article already referred to. Those who wish even greater detail than is here given must consult that work, which, however, has the very great drawback of not dealing with the pottery which is in some respects the most important part of the material.

Classi-
fication.

The objects to be described may be divided into the following classes—I. Objects of stone. II. Objects of bone. III. Objects of copper or bronze. IV. Ornaments for the person. V. Pottery.

I. *Objects of stone.*

I. Stone.
Flint.

The stone most commonly used for making tools and weapons is, as in the neolithic age, flint. It varies in colour and kind according to the district, but as regards form the objects differ very little from one district to another.

a. Flakes.

Rough flakes of *Moustérien* type, of irregular shape, occasionally retouched on one edge were sometimes found in the Remedello cemeteries, usually in graves of young people (fig. 91). Similar flakes, perhaps used as scrapers, were found in other cemeteries, often with implements of the finest workmanship. The same phenomenon occurs in the dolmens and associated tombs of France. These flakes were probably a survival from much earlier days. Being easily made they continued to be used when much better implements were already common.

b. Knives.

The rectangular knives of flint, struck from a prepared core, and of triangular or trapezoid section, are not common

at Remedello, though they are found both here and in the other eneolithic cemeteries (fig. 92). In some cases they are accompanied by flint-cores. In view of their universal distribution in the neolithic period, it is not surprising to find them in every part of Italy and the islands in the eneolithic age.

Objects prepared by working flakes of flint minutely on one side, usually at the edges alone, are not unusual in eneolithic deposits. The Remedello graves yielded scrapers

c. Objects flaked on one side only.

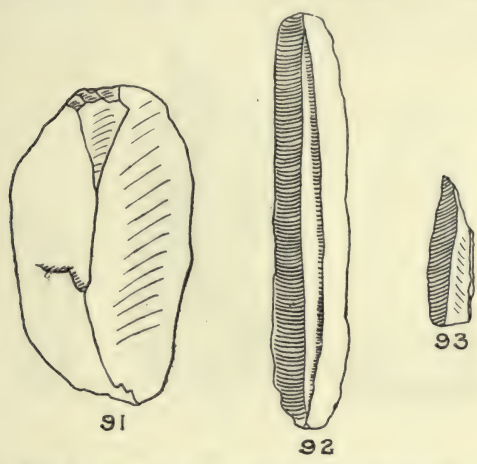


FIG. 91. Rough flake of flint. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
FIG. 92. Flint knife. Scale $\frac{1}{3}$. (After Colini, *Bull. Pal.*)
FIG. 93. Flint piercer. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

made in this way, while the Buca delle Fate gave piercers (fig. 93), and triangular objects retouched on one of the longer edges and used perhaps as javelin-heads, or even as knives (fig. 95). Fontanella gave several examples of an instrument shaped like a segment of a circle (fig. 96), the chord representing the sharpened edge, and similarly shaped implements were found at Monte Bradoni and Ca' di Marco. The use of these implements is uncertain. Chierici called them arrowheads with transverse edge, but they may be scrapers of some kind. In the artificial rock-tombs of Pianosa very similar objects were found, but they were trapezoidal in shape (fig. 94). These objects all

d. Geometric flints.

belong to the type called geometric, and are the continuation of an industry widespread in Italy and elsewhere in the neolithic period. The rhomboid flints belong to the same group.

e. Saws.

In the tomb of Ca' di Marco the segment-shaped flints were accompanied by a saw, toothed on both edges by flaking from one face only (fig. 97), and a lancehead worked on one side only, and minutely retouched along both edges towards the point (fig. 99). The cavern of Sant' Elia yielded a saw similar to that of Ca' di Marco.

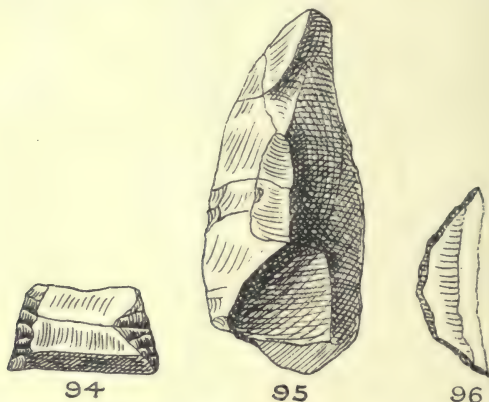


FIG. 94. Trapezoid scraper of flint. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 95. Flint knife. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 96. Geometric flint implement. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

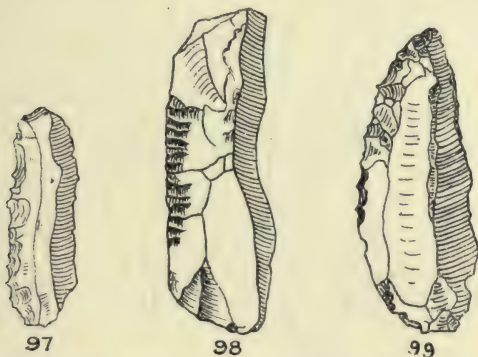
Among objects worked on both sides we may first notice a saw from the Tana della Mussina. It is of the rectangular type (fig. 98). Both types of saw, the rectangular and the curved, belong strictly to the bronze age, where they were in common use among the lake-dwellings and *terremare*. They do, however, appear occasionally in the eneolithic period.

f. Arrow-
heads.

Among the funeral furniture of the eneolithic graves no objects are more common than the arrowheads. They are triangular in form, with a tang. Both faces are worked in small flakes until they become only slightly convex, giving to the weapon a remarkable thinness and lightness (Pl. II, fig. 16). Finally the edges are sharpened by the

removal of minute flakes from each face alternately. This last process is apparently responsible for the sawlike edges sometimes noticed on these implements. In rare cases the one face consists mainly of the unworked surface as it left the core, only the edges being flaked. Roughly worked or unsymmetrical arrowheads are the exception. The shapes vary according to the relation of length to breadth, the convexity of the edges, and the shape of the wings and tang (figs. 100-103).

These arrowheads occur in burials and in settlements of the late neolithic and the eneolithic periods in all parts



FIGS. 97-8. Flint saws. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)
FIG. 99. Flint lancehead (?). Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

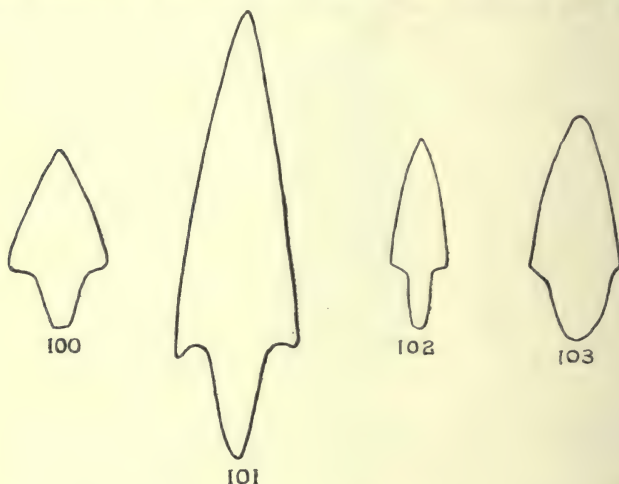
of the peninsula, and, although the stone used and the workmanship differ, even in examples from the same grave, the general form is always the same. It is well, however, to notice their almost complete absence from the burials of the Ligurian caves as from those of Orsi's First Siculan period in Sicily.

Exceptional shapes are very rare. At Ca' di Marco are two examples, roughly worked, with a concave base (fig. 105), and one example of the same form was found at Remedello. Other exceptions are a rhomboid form from Remedello, and one with a single wing from the cavern of Castello.

No less perfect in workmanship than the arrowheads are ^{g.} Daggers. the daggers. In method of construction they are very similar (Pl. II, figs. 18 and 19). The rough piece of flint is

brought down to a thin blade by flaking finely on both faces. The edges are sharpened by the removal of minute flakes from each side alternately. The heel or tang is usually less carefully finished than the blade, the edges not being shaped, and the surface of the original core being often visible. The forms can be roughly divided into two classes, oval and triangular, each of which admits of numerous variations (figs. 106-113).

These daggers of flint are common in the trench-graves of the eneolithic period, and also occur in the cavern and



FIGS. 100 to 103. Flint arrowheads. Scale, (100-1) $\frac{1}{2}$; (102-3) $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

rock-chamber burials of the Italian mainland, but so far they are entirely unknown in the islands. They are not a novelty in the eneolithic period, being known in burials dating from the very end of the neolithic age. In both periods they occur in the remains of dwelling-places, and they last down to the bronze age, being found not only in the lake-dwellings and *terremare* but in the contemporary hut-foundations of North Italy. It was, however, in the eneolithic period that they were most popular, and made with the greatest perfection.

In South Italy another form of dagger was in vogue

during the late neolithic period. This, which has been already mentioned, consists of a long blade of flint worked on one side only. In North and Central Italy it is rarely



104



105



106



107



108



109

FIG. 104. Obsidian arrowhead. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)
FIG. 105. Flint arrowhead, Ca di Marco. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)
FIG. 106. Flint dagger. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)
FIGS. 107-8. Flint daggers. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
FIG. 109. Flint dagger. Scale $\frac{1}{3}$. (After Colini, *Bull. Pal.*)

found, but there is little doubt that in the South it was largely used in the eneolithic period, and the northern type worked on both faces is exceptional in the South.

The discoveries of Remedello and Fontanella have left no room for doubt as to the destination of these weapons. They were almost invariably found close to the right hand, in a position which showed that the original handle,

probably of wood, was grasped in the hand. There is, therefore, no doubt that in general the weapons were daggers. At the same time they may also have been fitted with long handles and used as lances or javelins, a theory supported by the position of one of these blades in a grave at Remedello.

h. Flaking tools.

In a grave at Remedello was found an implement used for flaking flint by pressure. It consists of a small rounded cone of flint placed in a handle of stag's-horn. The point of the cone is worn and smooth with use. A similar implement was found in the pile-dwellings of Lake Varese. A flat oval flint found in a grave at Fontanella was probably used for a similar purpose.

Obsidian.

The use of obsidian has already been discussed in connexion with the neolithic period. In eneolithic times we cannot say that it was common, in the light of present knowledge. This, however, may be due to the fact that the eneolithic culture is known to us mainly from Upper Italy, where, for geographical reasons, obsidian was never in common use. In the caverns of Cape Sant' Elia, however, obsidian was largely worked. Long and regular flakes of triangular or polygonal section were struck off and either sharpened at the end remote from the bulb of percussion, to serve as arrow- or lanceheads, or blunted at both ends to serve as cutting or scraping instruments. Minute retouching is unusual, and is employed for pointing the ends or tooothing the edges. A few leaf-shaped arrowheads appear to have been worked along the edges. Figure 104 has an elementary tang.

Polished stone.

The polished stone axes of the eneolithic period need little description, for they are indistinguishable in material and form from those of the neolithic age which have already been discussed. They are most usually made of chloromelanite or jadeite, and, in Sicily, of nephrite and basalt. A few examples are polished over their whole surface, others only towards the cutting-edge, the rest showing the rough surface of the stone from which the axe was made. As in the neolithic age, three main forms can be distinguished, the hatchet, the adze and the chisel. These implements

a. Celts.



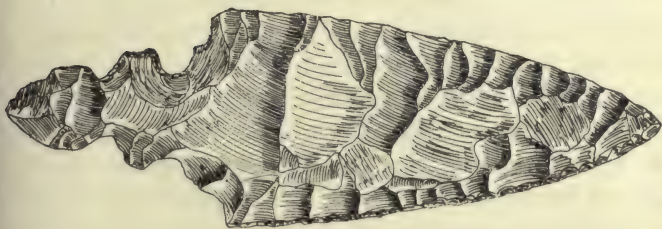
110



111



112



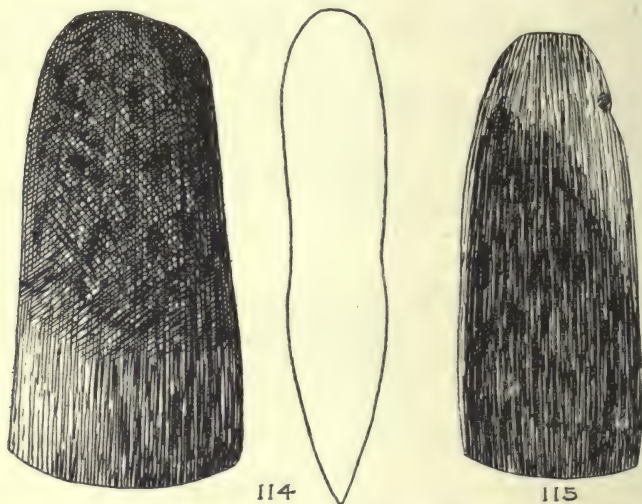
113

FIGS. 110-13. Flint daggers. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

are common not only in trench-graves but in caverns and in rock-hewn chambers. They occur both on the mainland and in the islands. A number of the Sicilian examples, from rock-tombs of Orsi's First Siculan period are undoubtedly miniatures. They are carefully polished and pierced at the heel, to be used, no doubt, as pendants. The three examples given in figs. 114-116 are from Remedello.

b. Pierced
celts.

The graves at Viterbo yielded two polished stone axes with holes pierced near the heel. One is probably of



FIGS. 114-15. Polished stone celts, Remedello. Scale $\frac{3}{4}$. (After Colini, *Bull. Pal.*)

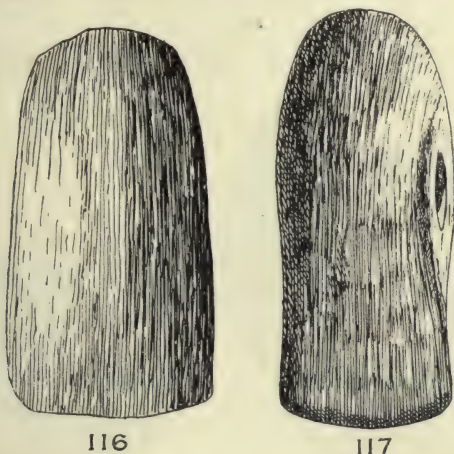
limestone, wider at the heel than at the cutting-edge. The upper face is convex and the lower concave, while the edge is obtained by working mainly from the upper side. Near the heel a small hole has been bored, probably with a flint piercer. The implement shows signs of wear and Colini supposes that it was used as an adze, the hole serving to bind it more firmly to the handle. The other axe seems to be taken from a bronze prototype. It is pierced near the heel. It shows no sign of wear, and perhaps served some ritual purpose, being placed in the grave to represent the more valuable axe of copper.

Models of axes in stone are not unknown in Italy, but they are generally of very small size. Besides the well-known Sicilian examples others have been found in various parts of the mainland. The first of the two specimens from Viterbo just described is, however, quite without parallel.

c. Model
celts.

Stone implements with a hole for fitting on to a shaft are not unusual in the eneolithic period. True hammer-axes were found in the graves of Cumarola, Sgurgola,

d. Ham-
mer axes.



116

117

FIG. 116. Polished stone celt, Remedello. Scale $\frac{3}{4}$. (After Colini, *Bull. Pal.*)

FIG. 117. Stone hammer-axe, Sgurgola. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

Viterbo and Poggio Aquilone. The example from Sgurgola is of sandstone, and is shown in fig. 117. The Poggio Aquilone hammer is of dark grey stone, with head not separated from the body, while the cutting-edge is bluntly rounded (fig. 118). Other examples have been found in various parts of Italy. The example from a grave at Viterbo represents one of the main types. It is roughly cylindrical in form, and the head is separated from the body by a short neck (Pl. II, fig. 20).

The other forms of perforated club-head are the discoid, the spherical and the pear-shaped. The discoid examples have the appearance of stone rings brought to a sharp

e. Club-
heads.

edge on the outer circumference (cf. Pl. II, fig. 14). The fragments found in the Ligurian caves have already been mentioned. These examples are probably neolithic. In the Vibrata Valley several ring-shaped objects of stone have been found. Most of these are probably armlets, but a few are proved by their sharpened edge to have been club-heads.

Examples of spherical and ovoid shapes occur in the same valley, and in a few cases the implement is made by merely perforating a natural pebble of suitable form.

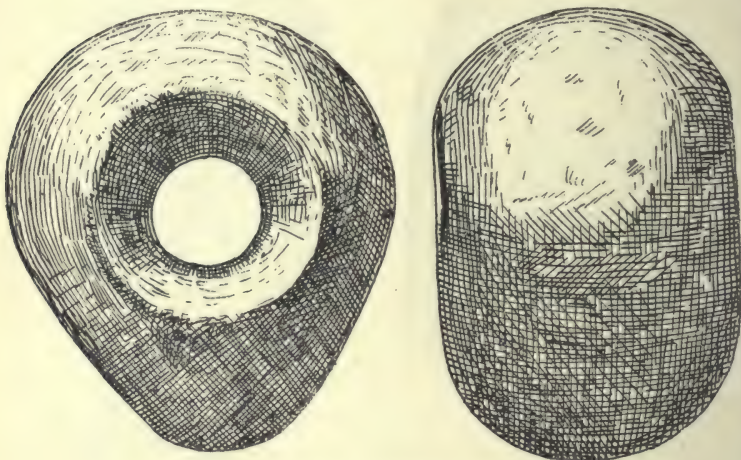


FIG. 118. Stone hammer-axe. Scale $\frac{1}{16}$.

In the graves at Viterbo each of the bodies was furnished with a club-head of grey stone speckled with black. Three were pear-shaped, and the fourth spherical (fig. 119 and Pl. II, fig. 21). The pear-shaped form is extremely rare in Italy, the only other known example coming from the eneolithic burial-cave of Isnello, near Cefalù, in Sicily (fig. 120). Outside Italy this pear-shaped form seems to be peculiar to Hissarlik, Cyprus and Egypt. The examples are of sandstone or limestone carefully rounded and polished.

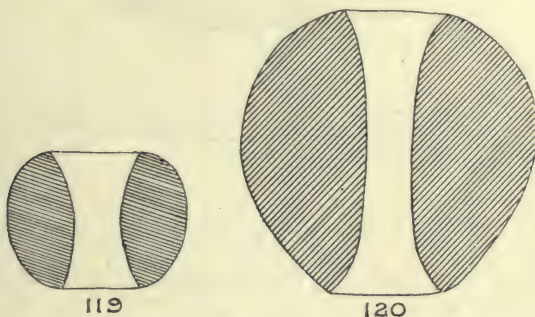
The holes bored in these club-heads generally vary in diameter according to the size and weight of the implement. They are usually bored from both sides with a solid or

tubular cylindrical borer. More occasionally the hole was begun by hammering a slight depression in the stone, and finished off by a borer and sand in the usual way.

Several graves have yielded smooth pebbles of a convenient size for holding in the hand. These were perhaps polishers used for finishing the surface of both vases and stone axes. Other pebbles were used as pounders or hammers. A finely polished specimen made of white limestone and found in the San Bartolomeo cave shows two concavities, one on either side to assist the fingers in holding it firmly. From La Tana della Mussina came a whetstone made of sandstone, and several flat stones on which substances

f. Polishers.

g. Grind-stones, &c.



119

120

Fig. 119. Section of stone club-head. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)

Fig. 120. Section of stone club-head. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

were ground, while in various caves occur pebbles with which the grinding was done. Examples of these last from the San Bartolomeo cave were marked with the red ochre which they had been used to grind. Polished axes which had been worn away at the cutting-edge were occasionally used as polishers or grinders.

II. Objects of bone.

Objects of bone are not common in eneolithic graves. II. Bone. The graves at Remedello gave no examples. At Fontanella, however, were found three small awls or borers, while at Volongo was found a mattock (*zappetta*) of stag's-horn.

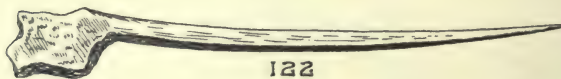
a. Borers.

b. Mattock. This last object is of great importance. It is foreign to the neolithic remains of Italy, and mainly occurs in the western group of lake-dwellings, e.g. Polada and Lagazzi. The presence of this object at Volongo is an additional proof of trade relations between the lake-dwellers and the eneolithic folk who were their neighbours.

c. Arrow-heads. In cave deposits bone objects are more frequent. La Tana della Mussina yielded borers, chisels and smoothers (*spatole*), while from the cave of Castello came two bone arrowheads, one conical (fig. 121), the other flattened. In the San Bartolomeo cave were found several interesting bone objects. Some consist of long flakes of bone sharpened



121



122

FIG. 121. Bone arrowhead. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

FIG. 122. Bone awl. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

d. Bone flakes. to a point at one end. In some cases the head of the bone is left on to serve as a hand grip. Another implement from the same cave is worked from a flat longitudinal flake of bone (fig. 122). For two-thirds of its length it is square in section, but towards the point it becomes circular. Exactly similar implements were found in several of the Ligurian caves. Colini suggests that judging by its fragility the example in question must have been a pin for the hair. The eneolithic cave of San Canziano, near Trieste, shows numerous examples of fine work in bone. Long flakes were sharpened and polished at the point, while stag's-horn was used to make daggers, spearheads, awls, polishers &c. In the graves of the First Siculan period in Sicily, bone objects were not found, with the exception of certain imported examples. A few implements were, however, found in the Grotta Lazzaro, and a large number in the village of Castelluccio.

III. *Objects of Bronze or Copper.*

These consist mainly of celts, daggers and borers. The celts, as in the case of those made of polished stone, are of three main types, axes proper, or hatchets, in which the cutting-edge is placed parallel to the handle; adzes, in which the cutting-edge is at right angles to the handle; and chisels, in which the blade is very narrow. All these forms are included under the general name 'flat celt'. This does not mean that the surfaces of the instrument are both necessarily quite flat, but that when they are convex the convexity is slight, and that, except for an occasional low flange on the edges, they show no ridges or wings

III. Metal.
A. Celts.
a. Shape.

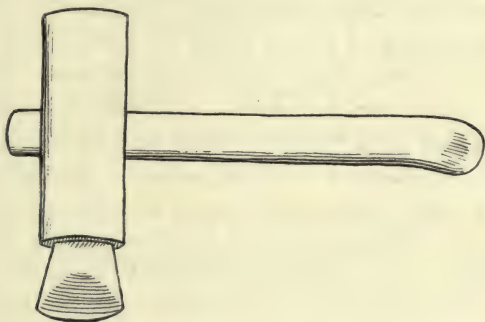


FIG. 123. Reconstruction of stone celt hafted in stag's-horn.

in relief, such as are found on the axes of the bronze age. They are almost invariably made of nearly pure copper, and the small percentage of tin which sometimes occurs was probably not introduced of set purpose. They are all made by first casting, and then beating out at the necessary points with a hammer. Often they were finished off by polishing with sand, especially round the cutting-edge. Unfortunately, no mould for making these weapons has yet come to light. This may well be due to the fact that the moulds, not needing to be very accurate, were made of soft clay, or other perishable material. At the same time it must be remembered that such things are hardly to be expected in graves, and that no eneolithic settlement has been thoroughly explored yet.

b. Material.
c. Casting.

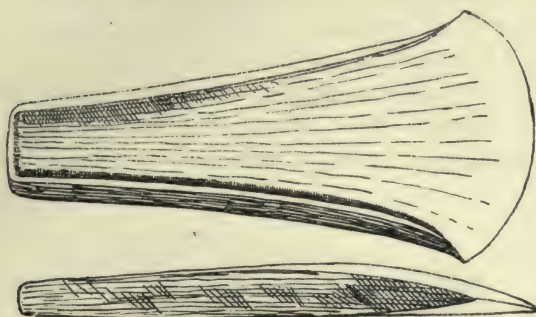
d. Hafting. In a grave at Remedello, together with a copper hatchet, was found a hafting of stag's-horn. It is roughly cylindrical. It is pierced from side to side in the centre by an oval hole, through which passed the handle of wood, thus forming an implement shaped like a modern hammer. One end of the horn cylinder was hollowed to receive the axe-head and the instrument was thus complete. Fig. 123 shows an ideal reconstruction.

e. Distribution. These 'flat-axes' of various shapes are found not only in eneolithic burials but in settlements of the same period. The graves of Remedello yielded four, if not five, and there are examples from other trench-graves already mentioned. Nor are they wanting in cave-burials, specimens being known from San Bartolomeo and Pietrarossa (Sicily). In the rock-chambers of Orsi's First Siculan period only two flat axes are known, and both are miniatures. These were probably not for use, but had a symbolical meaning. The custom of laying such miniature axes with the dead continued throughout the Second Siculan period. Among the settlements where flat axes were found are the cavern of San Canziano, near Trieste, the hut-foundations (?) of the *fondo* Nazari at Marendole, and those of the Valle della Vibrata.

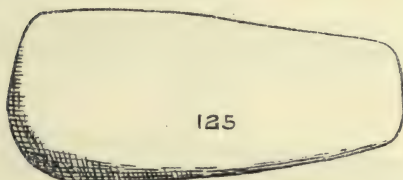
f. Date. The flat axe lasted into the bronze age, as is attested by examples, usually in bronze, from the lake-dwellings and *terremare*. But these examples are merely exceptions, and it may be said that at the end of the eneolithic period the flat celt gave way to the celt with flanges or wings. It thus appears that the copper flat celt is an object which may, with almost absolute certainty, be attributed to the true eneolithic period. This enables us to date the numerous examples from various parts of Italy, whose exact provenance is doubtful or unknown.

g. Types. The figs. 124-133 represent the most important shapes. In fig. 125 the resemblance to the polished stone prototypes is to be remarked. By comparing the figures it will be seen how the types vary in the form and breadth of the cutting-edge, in the shape of the heel, the direction of the sides and the convexity of the faces. Fig. 126 is interesting as showing the earliest form in which the flanged axe occurs

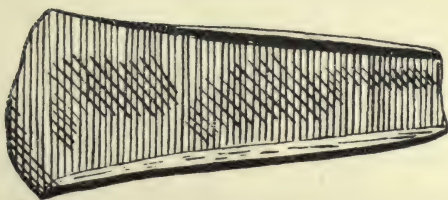
in Italy at the end of the eneolithic period. The flanged axe is essentially a Central European, as opposed to Mediterranean form, and its presence in Italy in this period is taken



124



125



126

FIG. 124. Copper celt with edges slightly flanged. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

FIG. 125. Copper celt imitating stone prototype. Scale $\frac{2}{3}$. (After Colini, *Bull. Pal.*)

FIG. 126. Copper celt with slight flanges. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)

by Pigorini as a proof that the relations existing between Italy and Central Europe in the bronze age had already begun at the end of the eneolithic period.

h. Nar-
rowed
form.

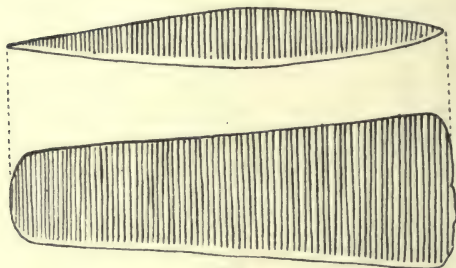
The copper chisel must have been rare. There is a doubtful example from S. Leo, near Bologna (Pl. II, fig. 15), another from Pomonte (Elba) made of bronze, a third from Mensano (Siena) and several more from different parts of Italy. But in all cases it is difficult to be certain that the instrument was used as a chisel and not as an axe.

B. Dag-
gers.

The copper daggers of the eneolithic period show considerable variety. As a class they may be described as roughly triangular with a tendency to great breadth at



127



128

FIG. 127. Long celt of copper. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 128. Copper celt. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

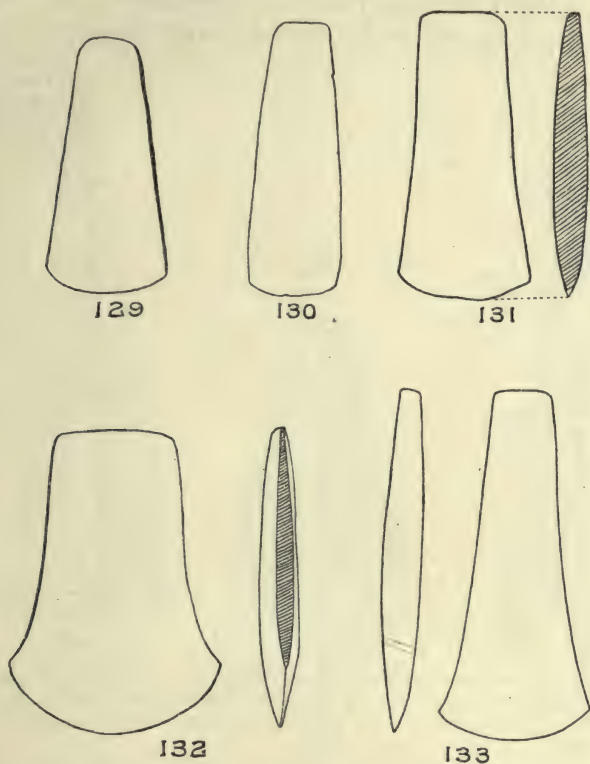
a. Size.

the heel. The longest example comes from Remedello and measures 24 cm., with a breadth of 6 cm. at the base, while an example from Viterbo measures 17.5 cm., despite the loss of the point. Some, however, are of very much smaller dimensions, indeed the Valley of the Vibrata has provided examples so small that they can only have been used as spear or javelin-heads.

b. Shapes.

The principal shapes can be distinguished as follows. The first is clearly derived from flint prototypes, being leaf-shaped with a flat tang. Daggers of this shape occur in the cave of San Bartolomeo, and the rock-tombs of

Anghelu Rujù in Sardinia, and in the graves of Santa Cristina and Viterbo (fig. 134). The second shape has no tang, and its base is either rounded as in fig. 135, or straight as in fig. 136. In either case the heel is pierced with two or more rivet holes. If the base is straight the



- FIG. 129. Flat celt of copper. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
 FIG. 130. Copper celt imitating stone prototype. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
 FIG. 131. Copper celt. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
 FIG. 132. Broad celt of copper. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
 FIG. 133. Long celt of copper. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

dagger has a pronounced vertical rib down the centre, whereas, when the base is round, the body of the dagger is flat or swells very slightly towards the centre line. The third shape is again tanged. Sometimes it is nearly flat, with a rounded base lengthened into a tang, which is pierced

with rivet holes (fig. 137). At others it has a sharp rib down the centre, and a straight base with a small rectangular tang with one or two holes (figs. 138 and 139). Fig. 140 is a less usual form.

c. Rare
forms.

These daggers were found both in tombs and inhabited caves of the eneolithic period. There are a few isolated examples which cannot be classed under the types already

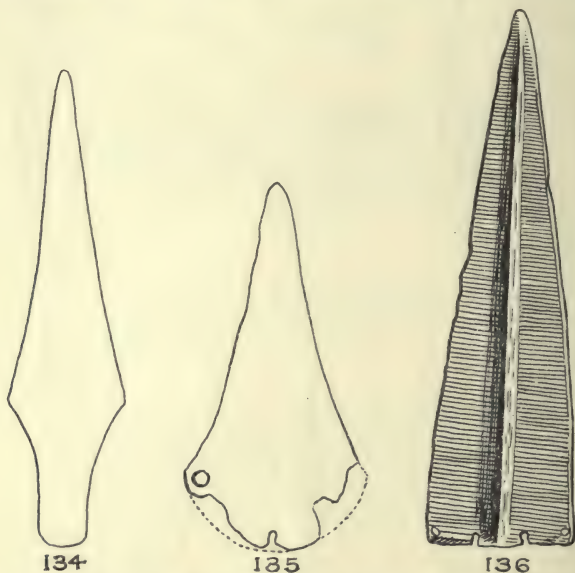
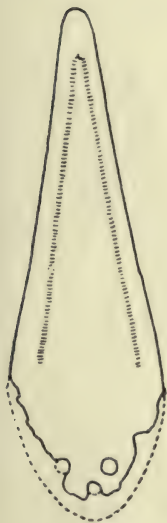


FIG. 134. Copper dagger, Santa Cristina. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
FIG. 135. Copper dagger. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)
FIG. 136. Copper dagger with well-marked rib. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

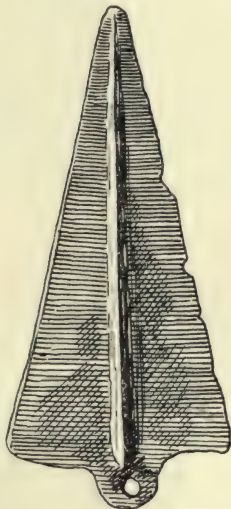
given. That shown in fig. 141 is from the Pollera cave in Liguria. The blade is thickened towards the centre line. Fig. 142 is an example from Monteracello, from the cemetery of the end of the First Siculan period. The edges are straight, and there is a slight central rib. Another dagger from the Pollera cave is like a lancehead in shape, with strong central rib and a tang which is prismatic and of quadrangular section, and which must have fitted into a handle. The cave of San Bartolomeo, in Sardinia, yielded a leaf-shaped flat dagger. The tang itself is unpierced, but

at the point where the tang meets the blade there are two rivet-holes, and the edges are toothed to assist in binding.

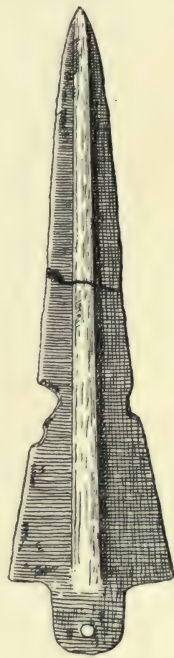
The rivets by which these eneolithic daggers were fixed ^{d. Rivets.} to the handles are often found still in position. They are small, simple, and beaten at both ends. This enables them to be distinguished from those of the bronze age, which are larger and have a true head.



137



138



139

FIG. 137. Copper dagger with broad rib. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 138. Copper dagger with well-marked rib. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 139. Copper dagger with well-marked rib. Scale $\frac{3}{4}$. (After Colini, *Bull. Pal.*)

Although the dagger form underwent great development ^{e. Date.} in the bronze age, yet some of the forms here described continued to be used. The small flat daggers with curved base are not uncommon in the western lake-dwellings of North Italy, and are known also in the eastern group. The larger form also persisted in the bronze period, as is

proved by examples from the grave of Parco dei Monaci, and from several of the lake-dwellings, besides the *terramara* of Castione. Most of these later daggers, though preserving the eneolithic form, are made of bronze.

f. Are they
imported?

Colini considers that, taken as a whole, the eneolithic daggers of Italy show too much perfection in metallurgy

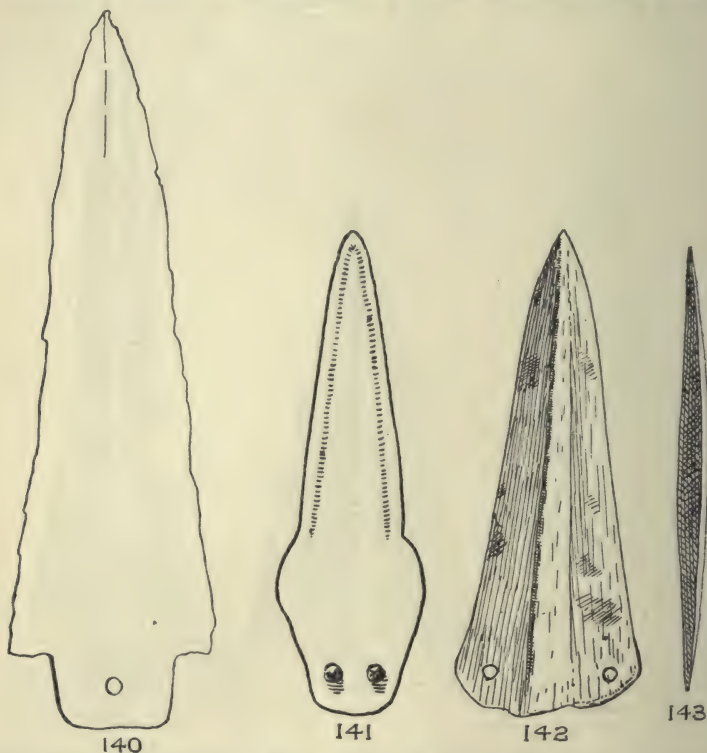


FIG. 140. Copper dagger. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 141. Copper dagger, unusual form. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 142. Copper dagger, Monteracello. Scale $\frac{1}{2}$.

FIG. 143. Copper borer. Scale $\frac{3}{4}$. (After Colini, *Bull. Pal.*)

to be the product of inexperienced workers. He therefore thinks them to have been imported along with the first knowledge of metal working. At the same time he adds that certain of the Italian specimens differ so much from their prototypes as to afford sufficient proof of native origin. He thinks that the centre from which all these

types of weapons spread lay somewhere in the Western Mediterranean.

The great width of the eneolithic daggers seems to disprove in most cases the suggestion that, like those of the bronze age, they were occasionally used as knives. On the other hand, it is probable that some of the smaller examples were used to arm spears or javelins.

No moulds for these daggers have yet been found, a fact which need cause no surprise when we remember that most of our knowledge of the period comes from graves.

Among the copper implements remain to be classed a C. Awls. number of awls or borers. As a rule they are about 7 or 8 cm. in length. They are made of copper wire of quadrangular section, thickest at the centre and rounded off into wire of circular section towards the point (fig. 143). In the cemetery of Remedello they appear to form part of the funeral furniture of women. Examples were found in the caves of Cape Sant' Elia, one of them being still fixed in a handle of bone.

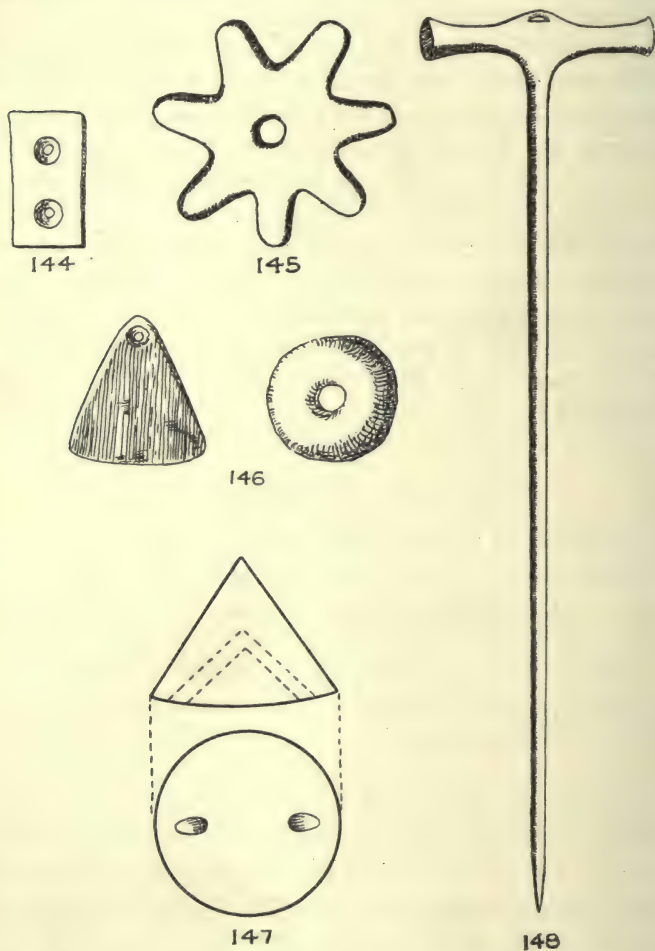
IV. *Ornaments.*

The people of the eneolithic period, like their ancestors, set great store by the decoration of the person.¹ Their simple ornaments consisted of natural objects pierced and used as pendants. In places near the sea shells were commonly used, and Sardinia has yielded large numbers of shells of genus *Pectunculus*, *Patella* and *Mytilus*, all with a small hole for suspension. These were, no doubt, strung together in necklaces. Sometimes the shell is worked into some regular shape; thus we get tiny discs of shells with a hole in the centre, and at Remedello we find rectangular slips of *Unio* and *Cardium*, pierced at each end and sewn on to a garment of some kind (fig. 144). Teeth, too, were frequently used as ornaments, especially the tusks of the wild boar. A rock-grave in Sardinia also yielded a small club-shaped pendant of bone.

Stone was also used for the same purpose, especially in

¹ *B. P.*, xxviii, pp. 5, 66.

Sicily and Sardinia. At Remedello were found cylindrical and discoidal beads of marble, and a cross and pendant (fig. 145) of the same stone. In Sardinia we get beads of quartz and limestone, together with rather large discs of the latter material. These last also occur in Sicily



- FIG. 144. Slip of *Cardium* shell for sewing on garment. Scale $\frac{1}{4}$.
 FIG. 145. Marble pendant (?), Remedello. Scale $\frac{1}{10}$.
 FIG. 146. Stone pendants, Monteracello. Scale $\frac{1}{2}$.
 FIG. 147. Conical bead with converging holes. Scale c. $\frac{1}{4}$.
 FIG. 148. Silver pin, Remedello. Scale $\frac{3}{8}$.

at Monteracello, Melilli, and Castelluccio, where the pendants assume numerous forms (cf. fig. 146). Of great interest are the small votive axes of jadeite or other fine stone, with a hole pierced at the apex. These are not uncommon in Sicily, for example, at Monteracello and Cava Cana Barbara, and examples are known from Sardinia, and from Viterbo in Latium. Similar celts occur in the dolmens of France, and, to judge from their smallness, they must have had a purely ornamental or ritual scope.

Rectangular or elliptical *brassards*, slips of stone probably used to protect the wrist against the bowstring, occur in Sardinia. These have as wide a distribution in Europe as the conical beads mentioned below.

Ornaments of metal are rare. They include copper c. Metal. buttons, a silver pin (fig. 148), and a copper ear-ring.

At Monte Bradoni occurred a conical bead of tin with two converging holes in the flat face. A somewhat similar bead of bone came from a rock-grave in Sardinia. Such beads (fig. 147), made of various material, are widely distributed in Europe and are found in England, Scandinavia, Bohemia, Austria, and in the dolmens of France, and in the Spanish peninsula.

V. *The Pottery.*

The pottery of the eneolithic period is not easily studied, V. Pot- for few vases have as yet been found, and of these still tery. fewer have been published. Nevertheless, even from the Two material at our disposal, it is evident that the various groups groups. of pottery from different parts of the Italian mainland exhibit remarkable homogeneity, and that the vases found in Sardinia differ from these very considerably. It is therefore advisable to divide the pottery into two groups, that of Italy, and that of Sardinia. We shall first deal with the Italian A. The group, and attempt to give some idea of the most usual mainland forms. group. Its forms.

The interest of these forms is twofold. In the first place they represent, as, indeed, does all the eneolithic material, a continuation of neolithic types, and, in the second place, they present several novelties.

a. Globular vase.

The most common type is perhaps a slightly flattened spherical vase with a low cylindrical neck (Pl. II, figs. 10 and 11). It is usually fitted with two or more tubular handles, through which strings could be passed; good examples occur at Viterbo, Sgurgola and Monte Bradoni. It is, however, not a new form. It was used in Italy in neolithic times, and occurs in the Reggian hut-foundations, at Alba Cuneo, and in the Pollera cavern. In South-East Spain it was found in large numbers by the brothers Siret, but it is there not necessarily neolithic. It is also a usual form in Germany, where, however, its chronology is disputed. A perfectly spherical example occurred in the peat-bog of Brabbia.

A modified form of this vase occurs at Toppo San Filippo in an eneolithic grave (Pl. II, fig. 12). The vase is here higher, and the neck more marked. In another example from the same burial the neck is conical and not cylindrical as here. This form also occurs in Germany.

b. Cup.

The next form is that of a cup with handle curved in above. This incurving is not a neolithic feature, but it is common in the lake-dwellings of North Italy. Similar vases with the more ordinary form of handle occur at Ca' di Marco and Toppo San Filippo (Pl. II, fig. 13). The impressed circles on a Remedello example should be noticed. They occur also on the pottery from the caves of Cape Sant' Elia, in Sardinia, which belong to this same period.

c. Inverted-conical vase.

The inverted-truncated-conical bowl or jar (fig. 150) is a neolithic form which continues to be used in eneolithic times. The example figured is from Monte Bradoni.

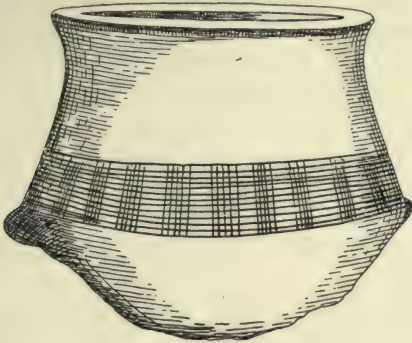
d. Biconical jar.

Fig. 149 gives a biconical form which is not entirely a novelty of the eneolithic period, very similar vases occurring, for example, in the Reggian hut-foundations and at Alba Cuneo. Two examples of this form occur at Remedello.

e. Bell-shaped vase.

The bell-shaped vase, *bicchiere a campana*, occurs at Ca' di Marco and Santa Cristina (cf. fig. 41). Colini speaks of this as one of the last manifestations of the neolithic pottery. As far as I know, however, there is no example in Italy which can be called even late neolithic, and as to the Villafrati example, though it was found with neolithic

material, we do not know to what period on the Italian mainland this Sicilian period corresponds. It seems, therefore, more natural to take this form as new in Italy in the eneolithic period, and to ask whether the same influence which scattered it over so many parts of Europe may not account for its presence in Italy.



149



150

FIG. 149. Incised vase, Remedello. Scale $\frac{1}{3}$. (After Colini, *Bull. Pal.*)

FIG. 150. Inverted-conical vase, Monte Bradoni. Scale $\frac{1}{3}$. (After Colini, *Bull. Pal.*)

Among other forms may be noted fig. 151 from Cantalupo, f. Other forms. a hemispherical cup from Remedello (fig. 152), and a vase given in fig. 153, also from Remedello. This last form is common in neolithic times in all parts of Italy and Sicily.

The technique of these vases is similar to that of the neolithic pottery. Sometimes the whole vase has a fine black or brown polish. The wheel is still unknown. Ornament is simple. It consists sometimes of a row of clay

Technique.

knobs round the body of the vase, sometimes of simple bands of incisions (fig. 149).

B. Sardinian group.

The eneolithic pottery of Sardinia seems to form a class by itself, though in part related to that of the mainland.

New forms are, however, more predominant than on the mainland, and one is inclined to ask whether Sardinia was not, perhaps, in more direct communication with the centre of dispersion of this style. The two chief groups as yet published are that of the caves of Cape Sant' Elia¹ and that of the rock-sepulchres of Anghelu Ruju.² This pottery seems to me to contain two elements, one a continuation of the old neolithic technique, and the other the introduction of a new style. The neolithic technique



151



152



153

FIG. 151. Vase, Cantalupo Mandela. Scale $\frac{1}{8}$. (After *Bull. Pal.*)

FIG. 152. Cup, Remedello. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)

FIG. 153. Inverted-conical vase, Remedello. Scale c. $\frac{1}{3}$.

a. Neolithic survivals.

of Sardinia, of which we know little, was apparently more akin to that of the South than that of North Italy. Relief-ornament is rare, while we commonly find on the Anghelu Ruju vases rough ornament carried out on the damp clay with a stick end, and a cave on Cape Sant' Elia has yielded fragments with the Molfetta *tremolo* pattern on them. These neolithic elements, southern in origin, persisted with some strength into the eneolithic age. But at or towards the end of the neolithic period new influences, probably from abroad, began to work upon Italy and its islands, and resulted in the introduction firstly of new vase-forms, and secondly of a new type of ornament.

b. New influences.

Band-ornament.

This ornament is a *Bandsystem*, but it does not correspond exactly to any one of the types called *Bandkeramik*. Indeed, the true *Bandkeramik*, according to Hubert

¹ *B. P.*, xxiv, p. 252.

² *Not. Scav.*, 1904, p. 301.

Schmidt's classification, i.e. that in which a running pattern covers the whole vase, is lacking in Italy, and the closest approach to it is the Moarda vase (fig. 42), which belongs to the *Winkelband* type. The Sardinian vase (fig. 154) and the San Cono vases correspond in style mainly to the Grossgartach type in South Germany. Thus it is impossible to assign our examples to any one fixed type of European vases. The important fact, however, remains that in contrast with the old neolithic horizontal decoration we now have a type in which the decorative unit is a band bordered by two parallel lines, and arranged in various fashions on the vase, as may be seen from the

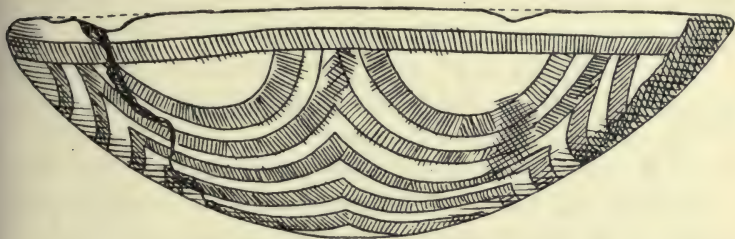


Fig. 154. Bowl with decoration of incised bands, Sardinia. Scale $\frac{2}{3}$.
(After Colini, *Bull. Pal.*)

figures. This system is most in vogue in Sardinia and Sicily. On the mainland it is rarer, though we still see traces of it at Ca' di Marco, in the Grotta all' Onda and at Santa Cristina, also among the later pottery of the Materan caves, and at the Pulo of Molfetta. The mainland examples are, as a rule, inferior in working to those of the islands. For example, the Molfetta fragments are very unskilfully incised, and the Grotta all' Onda example is obviously the attempt of a local potter to copy a fine piece of work such as the Sardinian vase fig. 154. I should suggest that this type of ornament reached Sardinia earlier than Italy, and that Sardinian vases were actually imported on to the mainland.

Turning to the forms, the first to be mentioned is the Forms. bell-shaped cup or *bicchiere a campana*. In the islands it

a. *Glockenbecher*. occurs in Sicily (at Villafrati, fig. 41), and in Sardinia. The mainland examples have been mentioned. It is scarcely necessary to note the well-known distribution of this vase, which includes Spain, France, the British Isles, Scandinavia, Bohemia &c. It is usually found in graves of the dolmen or *allée couverte* type.

b. Tripod bowl.

The tripod bowl (Pl. II, fig. 8) is of particular interest. An example was found with a *Glockenbecher* in a rock-tomb at Anghelu Ruju in Sardinia. These two forms are found associated in the earlier *Enkelt* graves of Denmark, and also in eneolithic graves in Bohemia, where, however, the bowl has four feet.

c. Other forms.

The Moarda form (fig. 42) has an exact parallel at Matera, and a similar vase to these was found at Malkenburg in Saxony.

The vase shown in Pl. II, fig. 9, is from the cave of San Bartolomeo. It is also found in Spain and Portugal and in the *allées couvertes* of Brittany.

The Moarda vases include several similar to that from Remedello (fig. 153). This form occurs in connexion with simple *Bandkeramik* in the neolithic graves of Worms in South Germany.

Date.

Such are the chief forms of this pottery. Its first appearance may be assigned to the end of the neolithic period, but it flourished chiefly in the eneolithic age. It has close analogies in form and ornament with the pottery most usually found with megalithic burials in Europe. Taramelli suggests the possibility that it lasted into the bronze age, or at least he compares it with the so-called 'Siculan' ware of South Italy.¹ This, as we shall see when we examine that ware, is more than doubtful. In conclusion we may note the complete absence of the spiral and maeander, and, especially in Sardinia, the occasional use of dotted-line work, i.e. work in which the incising-point as it moves along a line is pressed in at very close intervals, so as to produce a series of joined points.

¹ *Not. Scav.*, 1904, pp. 315, 328.

CHAPTER XI

ROCK-TOMBS AND MEGALITHIC MONUMENTS

IN this chapter we have to deal with the rock-sepulchres and megalithic monuments of Italy, and it is necessary that we should first be perfectly clear as to their distribution in the country.

Rock-hewn graves are found in South Italy, near Matera, and at other points in the Basilicata; at Sgurgola and Cantalupo Mandela in Latium; in the islands of Malta, Sicily, Sardinia and Pianosa. In other words, these graves are confined to Central and South Italy and the islands.

The megalithic monuments have a still more restricted distribution. Strictly speaking, the term megalithic monument should be applied only to a structure made of very large blocks of stone. The best known forms are, firstly, *menhirs*, large pillars standing alone in a vertical position; secondly, *alignements*, parallel rows of *menhirs*; thirdly, *dolmens*, large tables of stone raised by three or more slabs forming a small rectangular chamber; fourthly, *allées couvertes*, which are elongated dolmens roofed with large flat slabs; fifthly, *cromlechs*, or *menhirs* arranged on a circular plan.

Closely allied, at first sight, to these, are structures built with rather smaller blocks of stone, which are sometimes partly worked and laid in rough courses of masonry. Examples of these are the *nuraghi* of Sardinia, the *sesi* of Pantelleria, and the 'temples' of Malta. Such structures are sometimes called megalithic, though the term is strictly incorrect, applying only to the previous group of monuments. For convenience, however, it is sometimes necessary to group both types of buildings under the one head megalithic, and indeed it is probable that, in some cases at least, these latter structures are due to the same people who built the true megalithic monuments.

Rock-hewn graves, distribution.

Megalithic monuments.

Various types.

a. Structures made of large blocks of stone.

b. Structures of smaller stones.

Distribu-
tion of
mega-
lithic
monu-
ments.

a. Terra
d'Otranto.
Dolmens.

We must now examine the distribution of these monuments in Italy. For the sake of completeness we have also included a notice of similar structures in Malta, Corsica and the Balearic Islands, as they offer useful points of comparison.

In the Terra d'Otranto, in the heel of Italy, exist a number of dolmens¹ (Map I, 60). Seven are still preserved, while others have been destroyed. Each consists of a large roughly rectangular block of stone, supported on from four to seven pillars consisting of several stones laid one on top



FIG. 155. Dolmen, Terra d'Otranto. (After Pigorini, *Bull. Pal.*)

of another (fig. 155). The upper block is sometimes as much as 4 and in one case $5\frac{1}{2}$ metres in length, with an average breadth of 2 metres. No evidence as to the date of these structures is forthcoming, as no excavation has been carried out in or near them.

Menhirs.

In the same country exist *pietre fitte*, consisting of tall pillars of rectangular section standing alone, sometimes nearly 4 metres in height. These are the only dolmens or *menhirs* existing on the mainland of Italy.

b. No dol-
mens in
Etruria.

Dennis, in his *Cities and Cemeteries of Etruria*, speaks of dolmens in the district where the ancient Saturnia lay.² These were square or rectangular structures, covered with an unworked slab, which he asserts to have been in some

¹ *B. P.*, xxv, p. 178.

² 3rd edit., vol. ii, pp. 232-4.

cases 16 feet square. The question was investigated by the Italian Ministry of Public Instruction in 1881, and no traces of such buildings could be found in the place indicated by Dennis. He had apparently been deceived by the remains of some of the Etruscan graves of Pian di Palma.

The other megalithic structures with which we have to deal are those of the islands.

In Sicily no ordinary megalithic grave or building has ever been found. At Monteracello, however, Orsi excavated two graves which have already been described.¹ They consist of chambers formed of large slabs set on edge, and at one end of the better-preserved tomb was a small opening or *finestrino* (fig. 76). Dolmens with a *finestrino* occur in England, France, Palestine and elsewhere. But in calling the Monteracello examples dolmen-graves there is a considerable assumption, especially if we compare them with the foreign examples. They were built on level ground in a spot unsuited to the usual Sicilian rock-tomb. Orsi therefore suggests that they were built with a *finestrino* in order to imitate as closely as possible the rock prototype. This seems very probable indeed. But if we accept this we must no longer insist on the *finestrino* as proving affinity with the English and other dolmens, unless we assume that these too are derived from rock-tombs, or represent the same conception. On the whole it seems to me very doubtful whether the Sicilian examples deserve the name of dolmen-tombs at all, and before we speak of Sicily as a dolmen-country we shall have to wait for much more satisfactory evidence than the Monteracello tombs. So far from proving that the Sicilians of the time were megalithic-monument builders, they do not even prove that they were in connexion with countries where such builders lived, though indeed the Villafrati pottery tends to show that they were. Thus, while not denying the possibility of the connexion of these graves with the dolmens, we prefer to consider it as yet undecided.

In Pantelleria we have megalithic monuments, the *sesi*, which served as graves. These have already been described.

c. Sicily.
So-called
dolmen-
graves of
Montera-
cello.

d. Pantel-
leria.

¹ B. P., xxiv, pp. 202-3.

e. Sardinia. In Sardinia, besides the *nuraghi* and the *tombe dei giganti* already mentioned, we find several *menhirs* and at least one dolmen, between Borore and Birori on the rail from Oristano to Macomer.

f. Balearic Isles. In the Balearic Isles, besides fortified hamlets or villages, are found three types of megalithic monuments.¹ Firstly,

1. *Naus*. the *naus*, which are structures of carefully laid large stones, rectangular with an apse at one end, and built with a considerable batter. They are almost certainly tombs.

2. *Talayots*. Secondly, the *talayots*, which are truncated-conical buildings, often with a second story, reached by a staircase in the wall. These resemble the *nuraghi* very closely, and are dwellings. Thirdly, the 'bilithons', which consist of a large horizontal slab of stone supported by a vertical one, and often surrounded by a rough wall. These are possibly some form of temple, though there is no evidence to prove this.

g. Malta. In Malta we have, besides the well-known 'temples', such as those of Hagiar Kim, a number of round towers which may have been dwellings of a fortified nature.²

h. Corsica. The megalithic monuments of Corsica form two main groups, one in the North and the other in the South of the island.³ They consist of *dolmens*, *menhirs*, *alignements* and *cromlechs*, the total number being about sixty. It will be noticed that all these are true megalithic monuments, structures made of a few very large slabs, pillars or blocks.

Relation of rock-tombs to dolmens. The existence of rock-tombs and of dolmen and other megalithic monuments in Italy gives rise to an important problem. What is the relation of the megalithic monuments to the rock-hewn sepulchres, and of both to the ordinary grave *a fossa* dug in the open earth? That is to say, were these all contemporary, and were they all due to the same people?

Date. As to the question of contemporaneity we can speak fairly definitely. No rock-sepulchre or megalithic monu-

¹ *Zeit. Eth.*, xxxix, p. 567.

² Mayr, A., *Die vorgeschichtlichen Denkmäler von Malta*, Munich, 1901.

³ *Nouvelles Archives des Missions Scientifiques et Littéraires*, vol. iii, 1892, p. 49.

ment in Italy can be shown to be neolithic, and all those which have yielded any evidence have proved to be at least as late as the eneolithic period. At the same time there are three cases which deserve mention. Rosa mentions a cavern in the Vibrata Valley which, according to his opinion, had been used as a sepulchre in neolithic times. This cavern was natural in formation, but had been enlarged artificially. Unfortunately, the details he gives are so few as to make this example scientifically worthless. A somewhat similar case occurs at Matera, in Apulia (Map I, 58). It is a natural cleft in the rock just below the entrance to the Grotta dei Pipistrelli. The entrance was very small, but had been artificially enlarged. The cleft ended in a kind of pit in the rock, which was closed with rough stones, and contained, like the cleft, burials of neolithic date. In addition to these two cases, it is worth mentioning that the neolithic grave at Cavone (Map I, 46), in the province of Caserta, bore some resemblance to a megalithic sepulchre of the *allée couverte* type.¹ In was a long trench-grave cut in gravel, and over it were laid large stones forming a covering to protect the grave from the falling of gravel. It is highly probable that this covering was only adopted to meet the special circumstances of the case, but it is safer not to pass it unnoticed.

Rock-graves of neolithic date?

1. Vibrata Valley.

2. Matera.

3. Cavone.

These three instances make it impossible to affirm categorically that either rock-tombs or megalithic monuments were entirely unknown in Italy in the neolithic period.² But even if they were known they were very rare indeed, and probably belong to the end of the period. It was during the eneolithic and bronze ages that the two types were most frequently in use, as we have already seen. The rock-sepulchres of Latium and Pianosa are mainly of eneolithic date, while those of Sicily belong partly to the eneolithic, partly to the bronze age, and the datable examples of South Italy belong to the bronze age alone.

Rock-graves of the eneolithic and bronze ages.

The date of the megalithic monuments cannot be fixed

¹ *B. P.*, xxiv, p. 235.

² A few of the rock-tombs at Matera might possibly be neolithic. Mayer figures a vase from such a tomb in *Le Stazioni preistoriche di Molifetta*, figs. 90 and 91.

Date of the megalithic monuments. very exactly for Italy. The *sesi* of Pantelleria belong to a very early phase of the age of metals, probably corresponding to the eneolithic period in Italy. For the dolmens of Terra d'Otranto we have no evidence at all, nor can we have until they have been scientifically excavated. The Sardinian monuments, i.e. the *nuraghi* and Giants' Graves, seem to belong mainly to the bronze age, while the so-called dolmen-graves of Monteracello date from an advanced period of Siculan I, corresponding probably to the early bronze age on the mainland.

The race question. There still remains the difficult question whether rock-tombs, megalithic monuments, and *fossa* graves in the open earth point to the same or different peoples. This is a question which involves the whole Mediterranean, and takes us even further afield. It is not our business to discuss it in general, but merely to see in what form the problem presents itself in Italy.

Pigorini's view. Dolmens, rock-tombs and trench-graves all due to a single people. We cannot do better than go at once to Pigorini's view of the question. For him the dolmens, the rock-graves and the *fossa* tombs are all the work of one and the same people.¹ 'The eneolithic artificial rock-tombs of Sicily and the eneolithic tombs in the open earth of Lombardy and Emilia have the same value as the dolmens.' They all belong, he thinks, to the people who brought the neolithic civilization to Europe, and were erected when this people reached the eneolithic stage, though the possibility of earlier dolmens is not excluded. The absence of dolmens in any particular place does not prove the absence of the dolmen people, but more probably of the necessary stones.

Criticism of this view. The arguments on which this hypothesis is based are very powerful, and depend partly on the unity in burial customs observed in the various kinds of grave, partly on similarities in the graves themselves. They are in part drawn from observations carried out in other parts of Europe. In criticizing this view, however, we shall limit ourselves to evidence derived from Italy itself.

Firstly, we may notice that in Italy we have no proof

¹ *B. P.*, xxv, p. 178, note 4; *B. P.*, xxix, pp. 199-200.

that the dolmens are due to the same people as the trench-graves and rock-sepulchres, for the simple reason that no dolmen has been properly explored, or, at least, that none has ever yielded any material.

1. No evidence forthcoming from Italian dolmens.

Secondly, it is true that both trench-graves and rock-tombs of the eneolithic period have yielded precisely similar material. The pottery and bronzes of the rock-sepulchres of Sardinia and of Sgurgola and Cantalupo Mandela are closely allied, for example, to those of the trench-graves of the Brescian province. We have therefore a strong probability that the rock-tombs do not mark the advent of a new people, a probability which is confirmed by the lack of any break between the neolithic and eneolithic periods (see Chapter VI).

2. If trench-tombs and rock-tombs are due to one people how explain the change from one to the other?

If this is the case, we have to ask what was the reason for the adoption of the rock-grave and the dolmen in the eneolithic period. And here I cannot quite agree with Pigorini's method of viewing the problem. He suggests that the absence of dolmens in other parts of Italy proves, not the absence of the people and civilization of which the dolmens are a mark, but the absence of the necessary material for building such monuments. Surely, if this is the case, it is incredible that dolmens should only occur in one small corner of the country. A much more natural inference is that the people in other parts of Italy had never heard of a dolmen. This particular corner, the heel of Italy, from its position may well have become subject to the influence of some such movement from Africa to Europe as that by which Montelius explains the dolmens of West Europe and Scandinavia. It is not necessary that the people who built these dolmens in Terra d'Otranto should have been of different race from the inhabitants of the rest of Italy, though on the other hand we cannot prove that they were the same, as we have none of their remains.

3. Rock-tombs and dolmens only known to the lower part of Italy.

The case of the rock-sepulchre is similar. It never occurs in North Italy—not, surely, because rock-surfaces were lacking, but because that particular method of burial was not known there.

We may thus formulate the following conclusions.

Conclusions.

Firstly, the neolithic people when they first came to Italy did not use the rock-hewn sepulchre, and were probably unacquainted with the dolmen. Both these forms probably made their appearance in the eneolithic age. Secondly, neither of these forms ever penetrated North Italy. Thirdly, internal evidence has as yet given no clue as to the place of origin of either type. When, however, we find both kinds of tomb confined to South Italy and the islands, we may naturally expect that either the custom or the actual builders came by sea. Fourthly, in the light of present excavation we have no particle of evidence for determining the relation of the rock-grave to the dolmen. Fifthly, we cannot yet definitely say whether either was brought to Italy by an actual immigration of new people.

It would be folly to pretend that these results are in any way satisfactory. If the dolmen or the rock-grave, or both, were not introduced by a new people, they must have come in as a result of trade-relations, for they were certainly unknown in Italy in early neolithic times. But this seems a most improbable supposition, for it is almost incredible that mere trade-relations could cause a people to alter any thing so fixed and so sacred as were the burial-customs of the neolithic Italians. And yet there is no certain sign of a change of population. The First Siculan period, in which the rock-hewn sepulchre first appears, seems, judging from the evidence of the pottery, to proceed out of the neolithic without any break or discontinuity,¹ and those who suppose both types of grave to have been brought into South Europe by an immigration of one and the same people have to explain why they introduced painted ware into Sicily and incised ware of a totally different type into Sardinia or Spain. Similarly the pottery of the only rock-tombs known as yet in Central Italy, those of Sgurgola and Cantalupo Mandela, is most distinctly a continuation of the Italian neolithic ware, and shows no sign whatever of an immigration. At the same time, the fact that both types of grave appear about the same date in South Italy and the islands, and not elsewhere in the country,

¹ See, however, pp. 489-90.

Unsatisfactory nature of these results. Could trade-relations suffice to account for the introduction of new grave-types? Or can we suppose an immigration?

is a point in favour of those who would attribute them both to the same people, especially if the Monteracello graves can be really considered as dolmens.

The only certainty is that, until further excavation has been carried out, Italy can prove little or nothing with regard to this most difficult of problems.

CHAPTER XII

PROBLEMS OF THE ENEOLITHIC PERIOD

Two
main
problems.

THE questions which arise in connexion with the eneolithic period are two in number, both indeed aspects of the same problem. Firstly, how far is the eneolithic civilization a continuation of the neolithic, and secondly, how far was it produced and affected by foreign influences.

Continuation of
neolithic
tradition.

Let us begin with the former as being a necessary prelude to the second. So entirely is the eneolithic period a continuation or development of the neolithic that some archaeologists have spoken of it as 'the later neolithic age'. There is no gulf between the two periods: the customs and habits of the people remain virtually unaltered, and the old forms of implements continue for the most part to be used. Gradually, however, new forms in new material filter in and slowly replace the old types, owing to their better adaptability to the purpose required.

1. Method
of living
unaltered.

Let us consider for a moment the continuation of neolithic habits and customs. Neolithic man dwelt in caves or in semi-subterranean huts. Both practices were common in eneolithic times. At Remedello, for example, we find in connexion with the cemetery a village of huts partly hollowed in the soil, and the custom of cave-dwelling is still apparent in the Capo Sant' Elia caverns in Sardinia, or in that of San Canziano, near Trieste. In the Valley of the Vibrata we have a series of huts which continues, apparently without a break, from the neolithic to the iron age, and so marked is the survival of the neolithic forms in the eneolithic period that it is certain that the same people continued to live here undisturbed. Most of their customs they preserved unaltered, but they were gradually more and more affected by the new influences which were coming from without.

Almost more striking than the survival of the neolithic

method of dwelling is that of the old burial-rites. The body still continued to be laid in a trench-grave in the open ground as at Remedello, or buried in a cave as at Castello, accompanied by a plentiful supply of furniture for the next world. Not only do the general methods of burial continue, but even the details. The use of red ochre in the Ligurian cave-burials is continued in the painted skull of Sgurgola; the neolithic rite of *scarnitura*, or of secondary burial, was noticed at Remedello, at Fontanella, and occurs perhaps in Sicily;¹ in many cases the body lay in the contracted position on its left side, with its face to the East. The continuance of burial-rites is particularly valuable evidence, for it points to the continuance of religious ideas, and so, almost certainly, of race. At the same time, modifications are beginning to occur. The position of the body begins to vary. Sometimes it is on its right side and the legs are merely slightly bent, not truly contracted. Moreover, in the southern half of the peninsula, and in the islands of Pianosa, Sardinia and Sicily, the trench-grave is quite superseded by the rock-hewn sepulchre.

The stone implements and the pottery tell a similar tale. The rectangular flint knife, the geometrical flints, the polished stone axes of the neolithic period remain unaltered, but new forms are added, the finely worked arrowhead and dagger, and the pierced hammer of polished stone. The neolithic pottery types in many cases survive, while side by side with them are new forms and new methods of ornamentation.

Of the three causes of progress, i. e. internal development, foreign influence, and immigration, can we determine which was at work here? The last may, I think, be ruled out at once. Had immigration on a large scale taken place it must have caused in the series a break of which we have no evidence. Of course, we cannot exclude the possibility that small immigrations took place, but there was nothing powerful enough to affect the whole or even any considerable part of the country. What we have to explain is a gradual development in material, rather than a change.

¹ Possibly at Mondello. Cf. *Zeit. Eth.*, xxxv, p. 1023.

2. Continu-
ity of
burial rites.

3. Survival
of neolithic
implements
and pot-
tery.

Causes of
progress.

Suggested
immigra-
tion of
Pelasgi.

Nevertheless, Chierici, to whom our knowledge of the eneolithic period is in the first place due, proposed to account for the advance by an immigration of *Pelasgi*.¹ He recalled the legends of the Roman historians, especially that mentioned by Dionysius of Halicarnassus concerning the coming of the *Pelasgi* to East Italy,² and notes that Sgurgola, one of the localities where eneolithic tombs occur, lay in the territory of the *Hernici*, whom Macrobius calls a Pelasgic people. Chierici himself, however, only offered this as a possible suggestion, and the further discoveries since made have shown that such an explanation besides depending on the mythical is also unnecessary.

Foreign
relations.

It is to foreign trade that the development of Italy in the eneolithic period is to be ascribed, and we can even get some idea of the routes by which this commerce moved.

The
Aegaeo-
Ligurian
trade
route.

In the first place, we must notice the significance of the distribution in Italy of the rock-hewn sepulchre. It includes Sicily, Sardinia, Pianosa, and the southern part of the peninsula from Latium to Capitanata. In North Italy this form of grave is unknown. Thus, unless we admit the rock-grave to have sprung up of itself in the South of Italy we must admit that the current which brought it thither did not act on North Italy, or at least acted there with much less force. What this current was it is difficult to say. We have seen that it is improbable that it could have been immigration, and yet it is almost equally unlikely that mere trade should cause a change in the burial-customs of a people. However this may be, it shows that at this period new influences of some kind were at work in South Italy.

Intro-
duction
of copper.

Now the distinguishing feature of the period is the advent of the first weapons of copper. Can we discover whence they came? The fact that copper was certainly in use in some parts of Europe before it was known in Italy, and that the earliest Italian types of copper implement are none of them peculiar to the country, precludes an internal origin. Nevertheless, it is beyond all doubt that, although no moulds have yet been found, the industry was adopted

¹ *B. P.*, x, p. 163.

² *A. R.*, i, 19.

and carried on in the country, for certain later developments of the types are peculiar to Italy. Unfortunately, we do not know at what date the Italian copper-mines, much used in later times, began to be worked. The Ligurian mines explored by Issel¹ yielded various implements of stone and wood which give no definite evidence as to date. In Sicily there do not seem to be copper-mines of any size, and it is probable that all the material used was imported. It is therefore no surprise to find that at Cannatello, near Girgenti, a fragment of a large block of copper was discovered.² This, according to Mosso, may have been a fragment of a *pane* of the shape found in the royal villa of Haghia Triadha, in Crete,³ i.e. rectangular with concave edges. Similar blocks have been found in Sardinia,⁴ Cyprus,⁵ Euboea, and at Mycenae. The Cretan and Sardinian examples all weigh roughly 30 kilogrammes, while the Cypriote specimen weighs 37, the Mycenaean 23.625, and the Euboean much less (6 to 17 kilogrammes). Several of these blocks are marked with a sign, and it is remarkable that two of the signs on the Sardinian examples occur on the masonry at Phaestos, and a third is very similar to a sign on a clay tablet at Haghia Triadha.⁶

Blocks
of raw
copper in
Sicily and
Sardinia.

These facts prove that Sardinia and Sicily took part in a commerce which supplied various parts of the Mediterranean with copper. The source of this metal it is impossible to determine with certainty, at any rate until a series of analyses have been carried out, but probability points to Cyprus. It is not, however, necessary that copper should have been imported from Cyprus into Sicily and Sardinia direct; it may have come through the medium of some other people, possibly the Cretans. Indeed, Italian archaeologists seem as a whole to tend to overrate the evidence for an early connexion between Sicily and Cyprus.

The
Mediterranean
route.

Italy and
Cyprus.

¹ Issel, *Liguria geologica e preistorica*, vol. ii, p. 115.

² Mosso, *Le più antiche armi &c.*

³ *Rend. Acc. Linc.*, ser. 5^a, xii, p. 317.

⁴ *B. P.*, xxx, p. 91.

⁵ Murray, Smith, and Walters, *Excavations in Cyprus*, p. 17, also fig. 1535 on p. 15.

⁶ Note, too, that the Haghia Triadha *bident* or double-pointed spear has been found in Sardinia. *Mon. Ant.*, xi, Tav. xii, fig. 22.

Modestov, too, is surely wrong when he says¹ that the pottery of Stentinello 'nous conduit directement à l'île de Chypre, où nous trouvons ce style géométrique gravé en creux, et ce procédé de remplissage des creux sur les vases rouges et noirs par de la matière blanche'. Except for the white filling—an admittedly bad criterion—no two styles could be more unlike. Besides, the Cypriote ware is not neolithic at all, and, even allowing for the earlier knowledge of metal in Cyprus, cannot be as early as Stentinello.

Spain.

Orsi asserts² that the eneolithic civilization of Sicily was influenced by that of Spain, lately brought to light by the brothers Siret in the South-East of the peninsula. The copper dagger of Monteracello he compares with examples from El Argar and Lugarico Viejo. But the parallel is not complete, for the curious rib down the centre of one at least of the Sicilian daggers, and not clearly shown in Orsi's illustration, does not appear in the Spanish examples. The general shape is, however, the same, and the flat celt with outcurving sides and a wide curved cutting-edge, which is seen in Sardinia and Sicily (votive example at Castelluccio), certainly occurs at El Argar. Here, too, we find the conical button with converging holes, which is so characteristic of the Italian eneolithic age, and occurs in Sardinia. But the pottery with which these objects are found in Sardinia is utterly different from that of South-East Spain. On the whole, we must leave the question open until much more evidence is acquired both in Italy and in Spain.

Copper
on the
Italian
mainland.
Cretan
influence.

We have now to examine the question of the origin of the early copper forms on the mainland of Italy. And here we are at once confronted by close parallels between Italy and Crete, which have lately been pointed out by Mosso.³ The form of dagger with a narrow and strong central rib (fig. 136), has a very close parallel in a silver dagger from an Early Minoan grave at Kumasa.⁴ Another Italian type which is also paralleled at Kumasa is that

¹ *Introduction* &c., p. 87.

² *B. P.*, xxiv, p. 199.

³ Mosso, *Le più antiche armi di rame e di bronzo*.

⁴ Mosso, *Gli Scavi di Creta*, fig. 120.

of fig. 135, with concave sides and a curved heel. In the Kumasa example, however, the rivets are rather differently arranged. Finally, the dagger (fig. 137), with broad rib and rounded heel, finds a parallel in a dagger from the early *tholos* at Haghia Triadha. Of course we have no proof that these forms actually originated in Crete, but it is extremely probable that it was from there that they reached Italy.

More difficult is the question of the influence of Central Italy and Europe on Italy at this period. Any one who will compare the Italian copper celts and daggers with those given by J. L. Myres in his *Catalogue of the Cyprus Museum*, p. 53, will see at once that direct trade with Cyprus cannot explain the copper forms in Italy. Nor do we get much help from Spain. The daggers of South-East Spain include few of the Italian types, while the commonest Spanish type, that with the point rounded off, is practically absent from Italy. For such forms, therefore, as do not occur in Crete we have to look to Central Europe, and especially Hungary, where, according to Myres¹, the earliest Cypriote forms were adopted and made and modified in the plentiful local copper. And indeed, Italian forms are not lacking in Hungary and elsewhere. In Bohemia, for example, occur tombs containing pottery of the dolmen type, with *brassards*, conical buttons, fine flint arrowheads, polished stone hammers, and a dagger of the Santa Cristina type² (fig. 134). At the same time, precisely similar combinations occur in the graves of England, France and Spain.

In fact, the examination of the copper objects of Italy leads to the following conclusions. Firstly, they are of types common in Europe; secondly, they reached Italy from their original home or homes by two routes, by sea from the Mediterranean and by land; thirdly, some of them are very probably due to trade with Crete, while the influence of the Spanish peninsula is quite possible, especially in Sardinia and Sicily.

Our inquiry into the copper implements of Italy has

¹ *Cyprus Museum Catalogue*, pp. 17-18.

² The material is in the museum at Prague.

Trade-
relations
in
general.

led us to suspect that at the end of the neolithic age the country was in more or less active communication with various parts of the Mediterranean. There is also other evidence for this, and it may be convenient to collect it in this chapter.

Neolithic
period.

Stenti-
nello
pottery.

In the neolithic period, as I have tried to show, South Italy and the islands belonged more to the Aegæan circle of culture than to the Italian. The pottery of which Stentinello and Matrensa give the finest manifestations belongs to the same context as the neolithic ware of Crete. I do not mean that one is derived from the other, but that both have a common ancestor. Pottery of this type is found in Sicily, in South Italy at Taranto, Molfetta and Matera, in the Tremiti Islands, in Sardinia, and in the Ligurian caves. Some of the Sardinian examples from Anghelu Ruju resemble the Cretan ware more than the Sicilian specimens, but others, e.g. the fragments showing a *tremolo* pattern, from the Capo Sant' Elia caves, seem identical with fragments from South Italy. In Liguria we find a few pieces of this ware, and in the light of present evidence we may hazard the guess that they were imported.

Early
con-
nexion
with the
Aegæan.

I therefore suggest that from some point in the Aegæan area, or close to it, started a trade-route which went by way of South Italy and Sicily to Sardinia and on to Liguria. This is borne out by the fact that the only places in Italy where we find neolithic figurines of clay are Sicily and Liguria.¹ The significance of this fact will be seen when we remember the commonness of the figurine in the Aegæan area and its absence from Italy. Whether it was this trade-route which afterwards brought the rock-grave to Italy is doubtful. It is, however, worthy of remark that it is precisely in South Italy, Sicily and Sardinia that the graves occur, and that Pianosa, which is the most northerly point at which they have been found in Italy, would be a natural place of call on the route from Sardinia to Liguria. Another remarkable fact is that this route, or a part of it, corresponds exactly with the route taken at this period by the obsidian trade. We have noticed the frequency with which obsidian

The
obsidian-
route.

¹ Issel, *Liguria geologica e preistorica*, Tav. XXVIII, figs. 11 and 14.

occurs in South Italy, Sicily, Sardinia, Pianosa, Elba and Liguria. Whether Aegæan ships came up as far as Liguria we cannot say. It is perhaps more probable that the transmission of Aegæan products from Sicily northwards was done by the native obsidian-carrying barques.

However this may be, it is certain that this connexion with the Aegæan did not cease with the neolithic age. In this chapter we have already seen that this trade probably brought the earliest copper objects to Italy, some no doubt from Crete, others, less certainly, from Cyprus, and that not directly. We can see other effects assignable to the same influence. In one of the rock-graves of Castelluccio, in Sicily, the slab of stone which closed the entrance was ornamented with two pairs of opposed spirals in relief.¹ The spiral is a motive unknown on the pottery of the period in Sicily, and we need scarcely hesitate to ascribe this example to foreign influence. The pairs of spirals in the Trojan and Mycenaean gold-work at once occur to us, though these are probably later than the Sicilian grave. In any case, the motive doubtless reached Sicily from the Aegæan, where it is common in the Early Cycladic period, and appears in Crete in the Early Minoan age. A close parallel to the Sicilian example occurs in the so-called temple of Hagiar Kim in Malta, where there was a stone block with opposed spirals in relief, and close beside it a stone altar with a plant pattern on its front.² Both motives seem to point to Crete.

A grave of the First Siculan period in the Cava Lazzaro has a wide open *dromos* shaped like a segment of a circle.³ The curved back of the *dromos* is adorned on each side of the door of the grave with four pilasters cut in the solid rock, each pair being connected by a semicircular arch also cut in the rock. The pilasters are ornamented with sculptured circles and fish-bone designs. Somewhat similar pilasters are also found on two graves at Cava Lavinaro, in the same district.⁴ This architectural design cannot be

Later
con-
nexions
of Italy
with the
Aegæan.

The
spiral in
Sicily.

Aegæan
tomb-
archi-
tecture in
Sicily.

¹ *B. P.*, xviii, Tav. VI.

² Mayr, *Die vorgeschichtlichen Denkmäler von Malta*, fig. 8.

³ *Ausonia*, 1907, p. 7.

⁴ *Not. Scav.*, 1905, p. 432, fig. 18.

native, and is perhaps the work of a foreign artist. The difficulty, however, is that we have no parallel to it anywhere in the Aegaeon at this period. The round arch supported on pillars does not occur at this date in Cretan buildings, though some of the Knossian chamber-tombs—which are, of course later—have round-arched entrance doors.

Imported
objects
of bone.

In the graves of Castelluccio and the cavern of Lazzaro have been found seven finely-worked objects of bone which cannot possibly be of native work¹ (fig. 75). There is an exactly similar object from the second city at Hissarlik.² It is therefore probable that these objects were manufactured in some part of the Aegaeon area, and imported into both Sicily and Hissarlik.

Figurines.

The clay figures of Stentinello and Liguria have already been mentioned, but to them we must add the well-known bronze examples of Sardinia. The late warrior-figures show little similarity to the Aegaeon specimens, but there is in Sardinia an earlier and less known type of figurine. Several from Abini are in the Cagliari museum, and one from Urzulei was published in *Not. Scav.*, 1904, p. 229, fig. 1. This in some respects resembles very closely the Petsofà figurines from Crete.³ The head is round, the forehead low, the face a pointed oval, sloping back. The only garment is a loin-cloth around the belly. The Abini examples also show the loin-cloth in various forms, corresponding perhaps to the absence of one or more of its component parts, as at Petsofà. This makes one suspect that the earliest Sardinian figurines are closely connected with the Petsofà and other earlier Aegaeon products.

Aegaeon
pottery-
forms.

Finally, a word as to Aegaeon pottery in Italy. Two vases of the Aegaeon *Schnabelkanne* type were found in Sardinia, and figured by Pinza⁴ (fig. 156). A similar vase in the Museo Civico at Bologna is marked as having the same origin. These were probably all made in Sardinia, but must have been suggested by imported Aegaeon examples. In the Peel Park Museum at Manchester is

¹ *B. P.*, xviii, Tav. IV, figs. 1 and 2, and pp. 7-8; *Ausonia*, 1907, p. 6, fig. 1.

² Schliemann, *Ilios*, fig. 564.

³ *B. S. A.*, ix, p. 356.

⁴ *Mon. Ant.*, xi, Tav. XVIII, figs. 16 and 18.

a painted *Schnabelkanne* of Aegaeon type, said to have come from South Italy, and two vases of similar kind, one in the Louvre and one at Cambridge, have a similar history. In Sicily Orsi has long ago remarked the likeness of the hour-glass vases (cf. fig. 83) to those of Troy,¹ and I may add that a very similar vase occurred in the bone enclosure of Kamares period at Palaikastro.² In Sicily, too, we find the biconical vase, a kind of basin on a high foot (cf. fig. 80), which is a common Aegaeon form. It occurs also very early

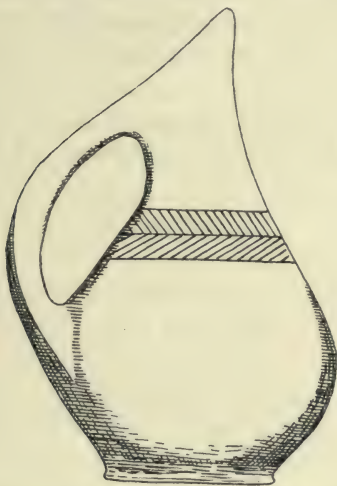


FIG. 156. *Schnabelkanne* of Aegaeon type from Sardinia. (After Pinza, *Mon. Ant.*)

in Liguria. Finally, the hour-glass cup with only one handle is a form known in the Early Cycladic tombs of Siphnos.³

All this evidence, when taken together, puts beyond doubt the existence of active trade in the early metal age along the route which was already in use in the neolithic period. Conclusion.

A trade-route which must be clearly distinguished from this is that which, as we found (p. 219), led across the Adriatic from some part of North Greece or Thessaly to South-East Italy. In discussing the early trade-relations of this part Adriatic trade-route.

¹ Schliemann, *Ilios*, fig. 1080.

² *B. S. A.*, viii, p. 293, fig. 7.

³ 'Eφ. 'Αρχ., 1899, Pl. LX, fig. 11.

of Italy more than a year ago¹ I did not insist as strongly as I should now like to do upon the distinction between these two routes, which we may call the Aegaeon and the North Greek respectively. In fact, I spoke as if North Greece formed an outlying part of the Aegaeon culture circle. Since that time the publication of the Sesklo and Dhimini material,² and the excavations of Messrs. Wace and Droop in Thessaly,³ have shown that the neolithic civilization of North Greece, so far from forming a part of the Aegaeon, was in a high degree, if not entirely, independent of it. It thus appears that the two routes which we have discussed ought to be kept very strictly apart.

¹ *B.S.A.*, xii, pp. 405 ff.

² Tsountas, *Αἱ προϊστορικαὶ Ἀκροπόλεις Διμηγίου καὶ Σέσκλου*.

³ *Annals of Archaeology and Anthropology*, vol. i, pp. 118 ff.

CHAPTER XIII

THE EARLY LAKE-DWELLINGS

MATERIAL illustrative of the bronze age in Italy has been accumulating for many years, and Montelius was, I believe, the first to give a complete collection of it in his *Civilisation primitive en Italie*. To Colini, however, belongs the credit of giving the first connected account of the period, classifying the remains from the point of view of type and date, and instituting comparisons between the different districts of Italy. The result of his researches appeared in a masterly article in the *Bullettino di Paletnologia*,¹ on which any further treatment of the period must be ultimately based. We shall here, as in the previous periods, begin by describing some of the principal stations, discussing, as we go, details that may arise in connexion with them, and afterwards we shall discuss the period as a whole.

The bronze age in Italy lends itself best to topographical treatment, and I have therefore so far as possible adopted that method. The completeness of the picture which we are able to draw varies considerably in different parts of the country. It is most complete in the North, where we can trace the bronze age civilization from its beginnings to its end. The outstanding feature of the early bronze age is formed by the lake-dwellings.

It was in 1854 that the boatmen of Meilen, on Lake Zurich, while the lake was in a very dry condition, discovered the first signs of pile-dwellings in Europe. The success of the explorations of the next few years in Switzerland led Mortillet in 1860 to ask for similar researches in the lakes of Lombardy. In that same year the first Italian pile-dwelling was discovered in the peat-bog of Mercurago, and others soon followed in Lakes Varese, Garda and Fimon. In fact it transpired that the early age of bronze

¹ B. P., xxix, pp. 53 and 211.

in North Italy was essentially an age of lake-dwellings. It is these structures which we have now to describe.

Distribu-
tion.

The distribution of the lake-dwellings in Italy is naturally very limited. The new-comers, assuming them to be such for the present, founded their first settlements on Lakes Maggiore, Varese and Como. Afterwards they spread east and west, and, keeping always to the lakes and marshy ground, reached on the west side Trana, slightly beyond Turin, while on the east they reached the province of Brescia and the south-west corner of Lake Garda. Either these same people or another branch of the same race also penetrated the Veneto and formed pile-dwellings on Lakes Fimon and Arquà, and at Cascina Veronese. This, however, is a point which will be better discussed later in the chapter.

Order of
treat-
ment.
The
Lakes.

In describing the principal lake-dwellings we shall adopt a topographical order. A glance at the map will show that the Italian lake system runs roughly east and west, and it is along this line that we shall work, beginning at its western extremity and moving eastward.

1. Lake
Maggiore.

We begin, therefore, with Lake Maggiore. In the lower part of the lake a number of lake-dwellings have been discovered along both east and west banks, and more especially in the peat-bogs to the South, which, presumably, once formed part of the lake itself. The most important of these lake-dwellings are those of Mercurago and Lagozza.

a. Mer-
curago.

The peat-bog of Mercurago (Map II, 72) has preserved for us *in situ* the remains of a *palafitta* or pile-structure. The deposit of peat is 2 metres in thickness, and is separated from the ancient mud-bottom of the lake by a layer of fern. Only a small area was examined, but twenty-two piles were found in position together with a number of horizontal crossbeams. The piles were driven more than a metre into the lake-bottom, and rise an equal distance into the peat above. The objects found were bronze daggers and pins, flint arrowheads, pottery of a blackish paste mixed with coarse sand, a soap-stone spindle-whorl, and sixteen conical beads of glass-paste. To these have to be added four wooden objects of unusual interest. The first is an anchor with two flukes

The piles.

Objects
found.

Wooden
objects.

at one end and a hole for a rope at the other. The second is a canoe about 2 metres long, hollowed in solid wood.¹ The two remaining objects are wheels. One is virtually solid, while the other has six spokes. The last is of very good and accurate workmanship.

Lagozza (Map II, 77) is the name given to a small peat-bog lying south-west of Lake Maggiore.² In 1875 the removal of the peat for agricultural purposes gave unique opportunities for the study of the lake-dwelling which the bog contained. This *palafitta* proved to be rectangular, lying north and south, and measuring about 80 yards by 30. The piles were driven into the old lake-bottom, four or five to the square yard, at irregular intervals. They varied in length from $3\frac{1}{2}$ to 5 feet, with a diameter of 4 to 8 inches. Crossbeams were also found, measuring sometimes more than 20 feet in length.

No objects of metal were found in the settlement with the exception of a bow-shaped fibula of early iron age type, and even this was not found in the same archaeological stratum, but about it. At the same time, the lower ends of the piles are thought by Castelfranco to show signs of having been sharpened with metal axes, the cuts being such as no stone celt could have produced. This statement may or may not be accepted. In any case, it must be remembered that the absence of metal does not prove the *palafitta* to belong to the stone age. Whenever a settlement was abandoned the inhabitants would, unless compelled to retire in the greatest haste, carry away with them all the bronze objects possible, though less careful in collecting those of stone and terracotta.

The pottery from Lagozza is of two types, a rough ware made of clay mixed with coarse sand, and a fine black ware. Handles are rare, and are more usually replaced by small knobs vertically pierced by string-holes. The ornament is very typical of the lake-dwelling group. It consists in

¹ It may be noted that in the peat bog of San Martino at Ivrea two more canoes of rather larger size were found, one containing two paddles. Several objects dating from the bronze age were found in the same deposit.

² Montelius, p. 29; Munro, p. 206.

small protuberances on the vases, of notches round the rim, of elliptical depressions, or of rough incised lines and small stamped circles. The chief shapes are the ovoid jar, the inverted-conical basin or cup, and the modern handled cup, also the hemispherical basin with incised rim. The spindle-whorls are discoid and are often roughly incised.

Stone objects.

Of stone there are some thirty polished celts, many flint knives, a few flakes, three flint arrowheads of doubtful provenance, pounders, grinders, polishers &c., and a small triangular pendant of steatite. A unique find consists of a wooden comb.

Seeds and fruits.

Seeds of wild flax and poppy were found, together with two kinds of wheat, six-eared barley, wild apple, acorn, hazel-nut, cornel-cherry &c.

No teeth or bones of any sort were discovered.

The lake-dwellers of Lake Maggiore.

The excavations on these two sites show that at an early period of the bronze age the southern shores of Lake Maggiore were inhabited by lake-dwellers. These people built settlements, rectangular in form, upon piles which they drove into the lake-bed, where the water was comparatively shallow. Though they were not ignorant of the use of bronze the metal was apparently rare among them, and the majority of their implements were of flint and stone. That they were an agricultural people is clear from the seeds of cultivated plants found among the remains, and the spindle-whorls used for spinning flax.

2. Lago di Varese.

Passing eastward from Lake Maggiore, we come almost immediately to the smaller Lake Varese¹ (Map II, 73).

a. The western shore.

b. Island of Virginia.

In prehistoric times it was more extensive, but a part of it has since dried up and is now represented by the peat-bog of Brabbia. The western edge of this lake appears to have offered great inducements to lake-dwellers, and at least seven pile-structures have been found. Towards the northern end of the lake lies the small island now called Virginia, about 75 metres from the shore, and having a length of about 220 metres. Piles had been found off both north and south edges of the island, and it was suggested

¹ Munro, p. 187; Montelius, p. 33.

that the whole island might possibly be an artificial formation. Extensive excavations proved that this hypothesis was correct. A pile-dwelling had existed on the spot, and had been destroyed by fire at the end of the bronze age. The amount of matter accumulated was already so great as almost to reach the surface of the water. This apparently suggested the possibility of forming an artificial island, which was done by piling up a layer consisting of sand, mud and débris, and at one point of large stones. The piles.

The objects recovered from the island are numerous. Of stone there are the usual knives, arrowheads pointed or transverse, rectangular saws and scrapers, all of flint; numerous flakes of obsidian, arrowheads of rock-crystal, celts and chisels of polished stone, including two of jade, a broken perforated axe, grinders, pounding-stones and polishers. Bone objects include borers, daggers, needles and perforated teeth. Implements of bronze are not common. Two knives are of interest: one is the concavo-convex type of the late bronze age (cf. Pl. V, fig. 1), and the other a two-edged leaf-shaped knife with openwork handle cast in one piece with the blade. Objects found.
Bronzes.

The pottery is of two types. The rougher type is of grey or reddish-grey appearance, and its clay is mixed with coarse sand; the finer type is of purer clay, and has a good black colour. Among the handles we notice the axe form (*ad ascia*) (cf. fig. 195), and knobs perforated with string-holes. The ornament is simple, and consists in nail-markings, knobs and furrows. Sometimes, too, pieces of cord are used to impress simple designs, consisting of bands of lines, zigzags or dog-tooth ornament. One fragment bore the impression of a textile made of plaited reeds. The most notable of the forms is that of a vase consisting of three ovoid jars joined together and communicating with one another by small holes. Other objects of terracotta are loom-weights, a discoid spindle-whorl and fragments showing the cast of wickerwork. These last are doubtless pieces of the clay coverings of the wicker huts. The plant remains included wheat, millet, blackberry and vine. A small piece of amber was also found. The animals repre- Pottery.
Ornament.
Forms.

sented among the bones were bear, wolf, badger, beaver, wild boar, stag, roebuck, and several domestic animals.

c. Bodio.
Cazzago,
Bardello.

Other *palafitte* were found opposite Bodio (Map II, 74), Cazzago and Bardello. These need no special description. It should be noticed, however, that the area occupied by one of the Bodio stations was strewn with stones, suggesting that it may have been a *Steinberg*, or pile-dwelling with a foundation of loose stones.

These various stations yielded numerous bronzes. Among these are several triangular daggers with rounded base (cf. fig. 135), an old eneolithic type, a flanged axe with curved and expanded cutting-edge, a winged axe, pins and socketed spearheads. The flints include arrowheads with concave base and others with tangs. As far as could be judged from the remaining piles, the Cazzago station consists of two quadrangular *palafitte* set side by side, while

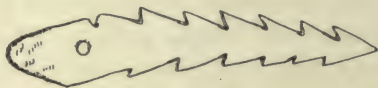


FIG. 157. Harpoon of stag's-horn, Brabbia. Scale c. $\frac{1}{4}$.

that of Bardello was a parallelogram in form. In both cases the piles were set in parallel rows.

d. Brab-
bia.

Objects
found.

The peat-bog of Brabbia (Map II, 75), already mentioned as having once been a part of the lake, has from time to time yielded relics representing various periods of the bronze and iron ages. The objects include flint knives, saws and arrowheads, a flat copper celt, polished stone axes, a stag's-horn harpoon (fig. 157), bronze pins, a winged celt, and fibulae, some of which are of La Tène type. Several square pieces of wood pierced in the centre were found. These are usual in the lake-dwellings, and were perhaps net-floats.

Pottery.

The pottery is always of a grey or black colour. The ornament consists of strips of clay in relief, marked with the nail, of simple incisions sometimes helped out by punctures, and of notches along the rims. The most striking vase

form is a hemispherical bowl set on a high foot. The foot is either trumpet-shaped or consists of four separate knobs. This shape also occurs in Lake Garda and at Arquà (Pl. III, fig. 14).

The lake-dwellings of Lake Varese contribute much towards our knowledge of this early bronze age civilization. As regards the pile-dwelling itself, we find that the rectangular form is not universal, but that the parallelogram is admissible. Further, just as in Switzerland, stones may be used to help to support the piles, or an artificial island may actually be made. With regard to the objects found in Lake Varese great caution is needed. We mentioned in the Introduction the danger of lake-floor deposits, and in the case of Lake Varese it is quite certain that various periods are represented. The earliest is, however, parallel with that of the lake-dwellings of Lake Maggiore. We see a people who use bronze as yet in small quantity and in primitive forms, and who still mainly depend upon stone for implements. The animal bones found prove that they were a hunting as well as a pastoral people.

We now move eastward again to Lake Como. Here, unfortunately, little evidence is available, as little scientific excavation has been carried out. Several pile-structures occur in the boggy land to the South of the lake, but the objects found were mainly late. For instance, in the peat-bog of Capriano, near Renate (Map II, 78), were found certain bronze objects which must belong to the very end of the bronze age or the beginning of the iron age.¹ These consist of a pin, a bow fibula of twisted wire, three bracelets, a wheel-pendant and a spiral ring.

The next link in the chain of lakes is the Lake of Iseo (Map II, 87), to the South of which, in a peat-bog which once formed part of the lake itself, lie the remains of a pile-dwelling.²

Of the form of this settlement we have no idea, as no evidence is forthcoming. The objects found cannot all belong to the same date, as will appear below. Of metal

¹ Munro, p. 205.

² B. P., xvii, p. 76.

The lake dwellings of Lake Varese.
a. Form.

b. Date.

3. Lake Como.

Capriano.

4. Lake Iseo. Pile-dwelling.

Objects
of various
date.

objects, the earliest are an axe with edges slightly flanged, and straight heel (Pl. V, fig. 2), and a broad dagger with rounded end and four rivet-holes. Both these point to the earliest part of the bronze age, for they are late eneolithic shapes. A series of ornamental pins need not be much later than this, but a sickle, a *terramara* dagger with pierced tang, and two concavo-convex knives, one with a metal handle, take us well on into the bronze age (Pl. V, figs. 1, 3).

To the earlier days of the settlement belong four steatite pendants, three shaped like heavy rings and one like a crescent, all pierced for hanging, and also a polished stone axe, wedge-shaped, rounded at the base and pierced laterally.

Flints.

But the greater part of the finds consists of flints. Among these are rhomboids, half-rhomboids, and transverse arrow-heads (fig. 51).

The knives are of the usual rectangular type, with one side flat and the other consisting of either two or three faces. Saws seem to take almost any shape, the most regular being rectangular or slightly crescent, toothed on the concave edge. The arrowheads, as usual in these pile-stations, show infinite variety. From the simple triangle, or the triangle with concave base, we pass through the whole series of eneolithic types, both leaf-shaped and triangular with wings and tang. These arrowheads are all minutely worked, and in many cases finely toothed on the edge. Some of the larger examples are no doubt better described as lanceheads, and a few may even be daggers.

Pottery.

The terracotta objects found were few and badly preserved. Nothing of value could be inferred as to the pottery, but the presence of the spindle-whorl was ascertained.

Bones.

The bones included those of the ox, sheep, goat, stag, horse, boar, wolf and dog.

5. Lake
Garda.

We now pass on to Lake Garda, the pile-dwellings connected with which are perhaps the most important of all. They fall into two groups topographically, those which lie in the peat-bogs south of the lake, and those which lie in the lake itself. Between these two groups we shall later try to show that there is also a chronological difference.

The most important of the first group are the pile-dwellings Group I. of Cataragna, Polada and Lagazzi, which we now proceed to describe.

At Lagazzi (Map II, 93), near Vhò, province of Cremona, a. La-
remains were found in the basin of an ancient lake, now dried ^{gazzi.}
up.¹ The archaeological stratum lay, not as is nearly
always the case, on the ancient bed of the lake, but on
top of a deposit of peat. From this fact one would imagine
that when the settlement was founded the district was no
longer a true lake, but rather a marsh. The peat itself ^{The piles.}
contained no remains except the lower ends of the piles
driven into it. One or two of these were examined. They
are 15 cm. in diameter, deprived of the bark, and roughly
worked towards the point, which is apparently hardened
in the fire. The true archaeological stratum lies above
this surface of peat, and is in its turn covered by the surface
soil, which, in places, contains Roman remains. This
stratum, however, which is of a dark colour, is not by any
means level on top, but consists of a number of low mounds.
Excavation seemed to show that each of these represented ^{The huts.}
the remains of a single hut, built upon piles. One of the
trenches dug showed in section a line of eight mounds in
a distance of 59 metres. The distance between the mounds,
from centre to centre, is about 6 or 7 metres, and, as there
is a passage between each pair, the diameter of each hut
must have been not more than 6 metres. Most mounds
show three distinct layers of hearths, a few even four. These
layers are composed of ashes, carbon, broken bones, fresh-
water shells, potsherds, flints, and objects of wood, stag's-
horn and bronze. Each layer contained also masses of
clay on which the imprint of beams and wickerwork was
still to be seen. These masses belonged without doubt to
the roofs and walls of the huts, and their appearance in
each successive stratum serves to explain the existence
of such clearly separated strata, the fact being that the
settlement was at least on three occasions wrecked by fire.
It was not possible to find the exact limits of the village of
which the huts formed a part. Parazzi, however, who was

¹ *B. P.*, xvii, p. 1.

present at the excavations, conjectures that it covered the whole of the depression in which it stands, an oblong of length 250 metres and breadth 150.

Pottery.

The pottery is represented by about fifty complete vases and innumerable sherds. The complete vases are of rough clay, carelessly made and cooked at an open fire. They are usually from 20 to 30 cm. in diameter at the mouth. The commonest shapes are the inverted cone and the double cone, with simple rims turned neither in nor out. The handles are usually fixed on the body of the vase; in rare cases they rise above the rim. The bottom of the vase is flat or even concave, but there is no sign of a foot. Sometimes the surface is smoothed with a flat instrument. The larger vases have thicker walls, and are roughly ornamented with strips of clay in relief, marked with the nail, or small protuberances set sometimes on the rim or the strips in groups of three. On some vases the ornament consists of incisions in the form of straight lines, zigzags or triangles, occasionally bordered with points. One vase is pierced with numerous small holes, and must have served as a strainer. The surface is usually grey or black, as at Polada, but red-surface vases are not uncommon.

Handles.

The handles are mostly simple; they consist often of a ring-shaped cord or ribbon handle applied vertically (Pl. III, figs. 11 and 12). Small protuberances pierced with string-holes or unpierced 'tongues' of clay are common. Specially notable is a double handle consisting of two vertical ribbon handles set side by side. Occasionally the handle consists of a small rise or thickening in the rim pierced with one or more string-holes. The handle *ad ascia* is common. A few of the sherds were of a finer clay than the rest. Among these was a handle of form common in the *terremare*. It rises above the rim, and at the top branches into two horns, which, however, are cut off slantwise at the root. This is Chierici's *ansa a mazzuolo*, which occurs at Demorta and also at Casale Zaffanella.

Pottery
similar to
that of the
terremare.

It is notable that the ornament of the Lagazzi vases shows several points of resemblance to that of the *terremare*. For instance, the incisions, generally sharp in the western

group, tend here to become broad and shallow as in the *terremare*. Besides this, we find an ornament consisting of circular depressions produced by stamping the wet clay with a spherical surface. The convex bottom of one vase has such a depression in the centre, from which four groups of rays run to the circumference, marking out a cross. All this points to *terramara* influence, and it is no matter for surprise that such influence shows itself precisely in the stations of Brescia and Cremona, where the two groups overlapped, or at least met.

The true crescent- and horn-shaped handles of *terramara* type were both absent.

The flints included rhomboids ; arrowheads varying from the simple triangular to the advanced winged and tanged form ; knife-blades with one or two cutting-edges, worked at one or both ends, or chipped to form saws ; borers, scrapers, cores and useless chips. Flints.

Other objects of stone included grinders of porphyry or granite ; fifty-eight pebbles, used perhaps as sling-stones ; a pestle shaped like a pyramid with rounded edges, and two of less regular shape ; several polishers ; two grindstones of sandstone, one square and the other wedge-shaped ; two hammer-axes of nephrite ; several polished axes and fragments of such, made of nephrite or amphibolite. Stone.

The objects of bone and horn are of great importance. Four thin rectangular pieces of boar's tooth are pierced to be sewn on to a garment or to form part of a necklace. They recall the examples in shell and bone from Remedello (fig. 144). Several implements of stag's-horn are of great interest. The first is 15 cm. long, and is pierced with a square hole at the thick end. The other end, now damaged, was no doubt sharpened, and the object was not a handle but an instrument itself. Parazzi suggests that, fixed in a handle, it was used to tear up ground for sowing purposes. Bone and horn.

Other more ordinary objects of bone and horn are a double cylindrical hammer of stag's-horn, awls and borers of the same material, daggers, arrowheads of circular or square section, needles, borers and polishers of bone.

Bronze.

Bronze objects consisted of needles from 4 to 11 cm. in length, and a small piece of quadrangular section and with one end sharpened to a point. All these were found in the upper strata of the huts.

Animals.

The animals represented are the dog, pig, wild boar, sheep, goat, ox (both larger and smaller species), stag, roebuck, water-tortoise and frog. There were also remains of *Esox lucius* and other fish. The shells were those of the *Unio pictorum* and *Paludina vivipara*. Finally must be mentioned a button of red amber, conical in shape, with two converging holes in the circular base. The form occurs on eneolithic sites (fig. 147).

Date.

Unfortunately we are not told, except in regard to the bronzes, in which stratum the various objects were found, so that it is impossible to judge the date of the foundation of the settlement. The rhomboid flints, perhaps the earliest objects found, might be taken to point to the early neolithic period, to which they belong in the Italian hut-foundations. But as in the lake-dwelling of Lagazzi we are in all probability dealing with an entirely different race from that of the neolithic hut-foundations, the argument is invalid. Among the people who built the pile-dwellings, and who had just come from outside Italy, the rhomboid flint may have survived much longer, or have been introduced much later. We can therefore only judge of the remains as a whole. Indeed, the evidence seems to show that the settlement was not long in occupation, for the relic-earth is only 40 cm. thick, and this consists in a large degree of the remains of burnt huts. Thus the amount of the actual refuse of everyday life is very small. If this argument is sound the lowest stratum cannot antedate the uppermost by very much, and, as the uppermost contains bronze, the lowest can scarcely be put back into the neolithic age. Nor is the absence of bronze in the lowest strata a proof of neolithic date, for, in the first place, bronze was a somewhat scarce material even in the early bronze age, and, in the second place, it was, by reason of its rarity, the very thing the lake-dweller would carry into safety when he found his settlement in flames. Another piece of evidence for a later

date is the occurrence of amber. Amber did not penetrate into Italy in neolithic times, and one suspects that it was the descent of the lake-dwellers into Lombardy that first opened the trade-route between Italy and the Baltic.

I have dwelt on the date of this settlement more as an example than because of its intrinsic importance. It shows very clearly the danger of assigning deposits to the neolithic age merely because they do not contain metal, and of applying to a race probably new to Italy criteria of date which only apply to the *Ibero-Liguri* of neolithic days, and not always to them.

A short distance to the South-West of the lower end of Lake Garda lies the peat-bog of Polada (Map II, 88), formerly a stagnant lake.¹ In 1872 draining operations revealed the remains of a pile-dwelling. It was a parallelogram in shape, 65 yards in length, and presenting one of its shorter sides to the shore, from which it was distant about 100 yards. This space is crossed by a double row of piles, which doubtless form the remains of the gangway. A canoe 25 feet in length, with signs of fittings for oars, was found near the *palafitta*, and another near the land end of the gangway.

The pile-structure.

The objects found among the piles were very numerous. Of bronze are a triangular dagger with central rib and a handle of bone (fig. 158), and also three flanged axes.

Of stone are a number of sandstone polishers, pounders of quartz and serpentine, and net-sinkers consisting of round stones perforated. Only six polished stone celts were found.

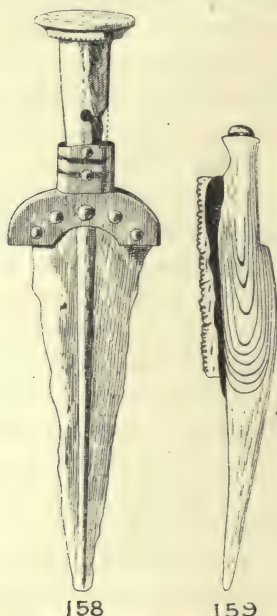
Stone objects.

When we remember that the settlement at Polada represents a definite point of time we cannot but be surprised at the variety of the flint forms. These include first of all the rhomboid and a kind of rectangular flint worked on one side only, and with usually two cutting or scraping edges. Arrowheads take practically every form, one-winged, transverse, triangular with straight or concave base, almond and olive-leaf shaped, winged and tanged in almost every possible variety. Saws are numerous, with straight, convex and concave edges, often curiously shapeless. Most interest-

Flints.

¹ Montelius, p. 52.

ing of all are the long saws. They consist of several lengths of toothed flint set in a wooden haft with a kind of cement (fig. 159). The haft has at one end a small pierced knob, and at the other turns off at an angle to form a handle. These haftings throw a bright light on the method of using many of the flint implements in eneolithic times; they



158

159

FIG. 158. Triangular dagger, Polada. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

FIG. 159. Flint saw set in wood, Polada. Scale $\frac{1}{6}$. (After Munro.)

also account for the shapelessness of some of the saw fragments found loose.

Brassards.

Three of the so-called *brassards*, or wrist-protectors, were found (cf. fig. 161).

Pottery.

The pottery may conveniently be divided into large and small vases. The latter are far the most numerous. They have usually a surface varying from a dull powdery grey to deep black. Most of them have some attempt at a polish, but if it was ever fine it is no longer so. Nine-tenths of these vases are cups. The most prominent shape is that which consists of a spherical or nearly spherical body

and an incurved neck on which is set a vertically-placed ribbon handle. This form appears in numerous variations, according to the relative shapes of body and neck (cf. Pl. III, figs. 1, 6, 7, 8, 9, 10). It is the form we have already seen in the eneolithic period at Remedello. Other cups are simpler, being hemispherical, cylindrical, or of inverted conical shape (cf. Pl. III, figs. 2, 5). A number of vases rather larger than most of the cups, and with two handles, may be classed as jars. The most usual shapes are the cylindrical and the ovoid (cf. Pl. III, figs. 3, 4). The larger vases usually fire to a greyish-red colour. We find a very tall inverted-conical form, a low hemispherical form with rim curved inwards, and inverted-conical vases of shallower type. These last are occasionally full of holes, and were then no doubt used as strainers.

The handles are various. Sometimes they consist of mere horizontal knobs, single or in pairs, or of projections pierced with a horizontal string-hole. But the majority are of the ribbon type, vertically applied. These are often depressed on top so as to form an acute angle at the corner (cf. Pl. III, fig. 4). Sometimes a small knob is placed on top of the handle, or even two knobs, and these, if made to slope apart, give the idea of an elementary *ansa cornuta* (cf. Pl. III, figs. 7, 9). Or again, the 'ribbon' may have a ridge down its centre, or may have a slightly concave surface.

Ornament is rather uncommon. Occasionally we find small knobs encircling the body of the vase, or a strip of clay in relief running round just below the rim. One cup has three vertical parallel strips near the top, and an exactly similar motive occurs at Lagazzi (Pl. III, fig. 11). In a few cases there is incised or punctured ornament, sometimes both on one vase. Punctured ornament is usually confined to a ring of dots round the vase (Pl. III, fig. 20), or a simple dog-tooth pattern (Pl. III, fig. 22). Judging by the specimens left us, the instruments used for dotting must have been of two distinct sizes. Incised ornament consists of a few scratchy lines on the handles.

In conclusion must be noticed several objects of *terramara* type, the strainer or *fischietto* (cf. fig. 194), three terracotta

spoons with handles hollowed but closed, and a series of small vases similar to those of the *terremare*, held by Pigorini to have been used for ritual purposes.

Other ob-
jects of
terracotta.

Spindle-whorls of terracotta are common, and are discoid, flattened-spherical or conical in form, with simple ornament. Rectangular cakes of terracotta with rows of small circular pits on one face are objects whose use is still uncertain.

Bone ob-
jects.

Among the objects of bone the most remarkable are a number of daggers made from the leg-bones of the deer or other animals. The joint end of the bone serves as a handle and the opposite end is keenly sharpened and polished (cf. fig. 163). There are several of the so-called mattocks of stag's-horn. One of these is cut off short near the head, and must have been used as a hammer alone. Polishers take two forms; they are either rectangular with rounded ends or spoon-shaped. Among the remaining objects are a knife, large needles, arrowheads, conical buttons, boars' tusks with two holes at one end, and pierced animal teeth.

Bones.

The bones found in the settlement include those of the ox, horse, sheep, goat, dog, cat, wild boar, pig, stag and roebuck.

c. Cata-
ragna.
Pottery.

The peat-bog of Cataragna (Map II, 95), in the province of Brescia, yielded remains of a pile-dwelling. The most important finds consist of the pottery, which resembles in every particular that of Polada. It is of the usual grey-black surface kind, poorly baked and badly polished. The majority of the vases are of the Polada type with contracted neck, some of smaller some of larger size, as at Polada. There are also two small cylindrical cups remarkable for their ornament. One has three horizontal rows of impressed circles with centres marked; the other has a horizontal incised zigzag bounded by two incised lines, and below a row of 'circle and centre' ornament. Finally there are a small funnel-shaped vase (the *fischietto* of the *terremare*), and a shallow hemispherical basin with a high handle and two knobs above it (fig. 160).

Bronzes.

Of bronze are two arrowheads with a central rib and tang, and a pin with spherical head. In bone there are

daggers, and several objects similar to the hoes or mattocks of Lagazzi.

The flints include curved saws and arrowheads of several forms, transverse, with concave base, or with tang and wings. Flints.

It is important to notice the rectangular slips of stone, *brassards*, pierced at the four corners (cf. fig. 161), probably used to protect the wrist against the recoil of the bowstring. *Brassards.*
Small flattened-spherical beads of limestone and a large bead of very fine amber were also found.

The three lake-dwellings just described add much to our knowledge of the period. Particularly enlightening is



FIG. 160. Crescent handle, Cataragna. Scale c. $\frac{2}{3}$.

the discovery of the remains of the huts at Lagazzi, and the fact that the structure was built not in a lake but in a marsh. The civilization represented is much the same as that seen in the more westerly lakes. If anything, it is slightly later, a fact supported not only by the general appearance of the material but also by the existence of influences due to the *terremare*. Civilization of the earlier group in Lake Garda.

In marked contrast with these three is the second group of pile-dwellings connected with Lake Garda; I mean the *palafitte* which lie off its south-west shores. Group II.

As early as 1851 dredging operations in the harbour of Peschiera (Map II, 96), at the south end of the lake, had brought to light a number of bronze implements lying on the lake-bottom among the upper ends of piles. It was not until 1864 that a scientific report on the settlements was a. Peschiera.

Strata. published by Von Sacken. The stratification dealt with is as follows.¹ Five feet of water followed by three feet of sand containing no remains; below this lay the archaeological stratum, from 2 to 3½ feet thick, containing vegetable remains, industrial products, and the tops of piles; below this again the prehistoric lake-bed into which the piles were driven. The area of the *palafitta* could not be ascertained, but was at least 10,000 square yards. The piles were usually of pine or oak, and among the vegetable remains were those of rye and of the vine. The bones found were those of the stag, roebuck, wild boar, dog, sheep, goat, horse and pig.

Pile-structure.

Two periods. The great importance of this settlement is that it was inhabited through two successive periods, the full bronze age and the early iron age. The material has been specially examined by Pigorini,² who gives the following results of his study.

Bronze and iron age settlements. The pile-dwellings of Peschiera represent two distinct periods, the bronze age and the iron age. The presence of rye, of amber, and of objects which are rare or lacking in the *terramara* strata of the bronze age, but which occur in the iron age strata which overlie them, shows that the inhabitants of the pile-dwellings of Peschiera were still there when the iron age began. However, as objects of this later period are comparatively rare, it is probable that the settlement only just survived the bronze age. The bronze implements of Peschiera are closely akin to those of the *terremare*, and have numerous parallels in the Danube Valley and in Hungary.

Pottery. The pottery resembles that of the *terremare*, and is of two types, rough and fine. Vases of the finer type are sometimes polished, but the work is on the whole inferior to that of the *terremare*. *Ansa lunata* is common, while tongue-shaped protuberances and tubular handles are not unusual. Ornament consists of simple relief work, sharp incisions, and broad shallow furrows in the *terramara* fashion (Pl. IV, fig. 5). The dog-tooth is the most usual pattern.

¹ Munro, p. 216.

² Pigorini, *Le abitazioni lacustri di Peschiera nel Lago di Garda*.

The rims of the vessels are occasionally undulating or moulded.

Among the flint implements are straight and curved ^{Flints.} saws (cf. fig. 162), and arrowheads with concave base (cf. fig. 161), with wings and tang (rare), with four barbs, or with transverse edge. Other objects of stone are discs pierced at the centre, small beads and *brassards* (fig. 161). Of bone ^{Bone.} are combs and pin-heads of *terramara* type, conical arrowheads, spatular polishers, pierced teeth, and quadrangular

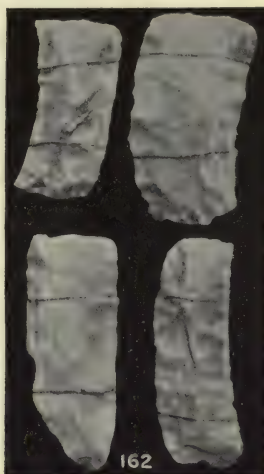


FIG. 161. Flint arrowheads and *brassard* from Mincio. Scale c. $\frac{2}{3}$.

FIG. 162. Flint saws from Mincio. Scale c. $\frac{2}{3}$.

slips of bone pierced at the four corners, perhaps used, like those of Remedello, to sew on to a garment.

The bronze implements are numerous, and vary greatly ^{Bronze.} in form. To the true bronze age we may attribute the axes, flanged or winged (Pl. V, fig. 9), chisels, sickles, razors (Pl. IV, figs. 17, 18), awls, olive-leaf shaped knives, with the handle sometimes moulded in the same piece, and spear-heads with a socket. To the end of the bronze age belong the violin-bow fibulae (cf. fig. 186), one of which is plated with gold, while to the dawn of the iron age belong concavo-convex knives, bracelets, necklets, and several thin pieces

of bronze plate in the form of springs. Several of the objects described take rather unusual forms, especially the knives or daggers which are figured (Pl. IV, figs. 14-16). Among objects not yet referred to are harpoons and boat-hooks, and pins of various forms, belonging probably to both the bronze and the iron ages.

Pile structures have been found at various other spots in Lake Garda, both on the east and the west coast. The most important are those situated in the south-east corner, near Il Bor, Pacengo and Mincio.

b. Il Bor. The *palafitta* of Il Bor lies about 100 yards from the shore, to which it is parallel. In prehistoric times, however, the level of the water was probably lower. This is supported by the fact that a triple row of piles which once upheld the gangway does not nowadays reach the shore, but stops half-way. The material found here was very similar to that of Peschiera.

c. Mincio. At Mincio nothing was ascertained as to the position and size of the pile-structure, but a large number of objects were recovered. Among the most interesting are the numerous flints, which include curved saws (fig. 162), arrowheads (fig. 161), one transverse and one with four barbs, and leaf-shaped spearheads. The bronze implements were all similar to those of Peschiera, and many of them are certainly not earlier than the last phase of the bronze age. The pottery included *ansa lunata*.

Later group in Lake Garda similar to the *terremare*. It is beyond all doubt that nine-tenths of the material found in Lake Garda belong to a later stage than that found in the lake-dwellings hitherto described. Were one to be suddenly confronted with the Lake Garda material, laying aside obvious iron age objects, and told that it came from a *terramara*, there are few things which would strike one as unusual or strange.

Cascina. We must now proceed eastward on our survey of the early lake-dwellings. Immediately to the East of Lake Garda lie the peat-beds of Cascina (Map II, 97), province of Verona, which yielded the remains of a lake-village.¹ Among

¹ Martinati, *Paleoetnologia veronese*. Extract from *L'Adige*, 1874, pp. 6 sqq. ; B. P., i, p. 180.

the bones are those of the stag and ox. The pottery is identical in clay firing and form with that of the other lake-dwellings.¹ The handles are of ordinary ribbon form applied vertically. The flints include finely worked arrow-heads, almond- or leaf-shaped, or with wings and tang, saws, a rhomboid finished by secondary chipping, a lance-head, and an arrowhead with transverse edge. One arrow-head is described by Martinati as 'of long almond-shape, marvellous for the delicacy of the work and the thinness of the blade'. Among the bronzes are a piece of a broken axe (?), a *coltello-ascia* of usual type, and a knife of olive-leaf shape cast in one piece with the handle. This latter is typical of the *terremare* and of the pile-dwellings of Peschiera. These bronzes certainly seem to point to the full bronze age as the date of the settlement.

Moving eastward once more we come to the last, though not the least important of the lake-dwellings, those of Fimon and Arquà.

The lake of Fimon lies about 4 miles to the South of Lake Fimon. Vicenza (Map II, 101). It is now only about 2 miles in circumference, but in prehistoric times it was much larger. In a meadow close to the present lake was found a pile-dwelling. The piles were from 8 to 12 inches in diameter, irregularly placed, with no trace upon them of cutting instruments. Occasionally the piles were surrounded by heaps of stones, which aided in keeping them firmly fixed. One pile which was extracted was found to measure 18 feet in length. No bronze objects were found in the first excavation, but later researches near the same spot yielded a flat bronze celt.

Flint-implements were numerous, but badly made, and included rough arrowheads, knives, and scrapers or saws. The stone objects also included pounders of limestone, sling-stones of basalt, serpentine and sandstone, and stone

¹ This statement, written as it was in 1874, is hardly definite enough to help us. If 'other lake-dwellings' means those of Lake Garda or the *terremare*, then Cascina belongs to the later group just treated above. Otherwise it belongs to the earlier. A similar difficulty arises in the case of a pile-village found in the same neighbourhood at Saline (see *B. P.*, i, p. 179).

discs from 2 to 4 inches in diameter, only one of which was perforated. Worked bone and horn were common.

Pottery The pottery is of two types, fine and coarse. In the latter the clay was mixed with fine gravel. The vases are of a dark colour, and usually have ordinary ribbon handles. The ornament consists of short parallel ridges of triangular section, of flat strips in relief marked with the finger-tip, or of rather careful incisions. Elementary *anse lunate* and handles ending in a round knob were found. The spindle-whorls are discoid and without ornament.

Vegetable remains. The vegetable remains include the water-chestnut, cherry, hazel-nut, acorn and blackberry. Among the animal bones were those of the stag, wild boar, sheep, ox, roebuck, badger and freshwater turtle.

Arquà. The lake of Arquà lies not far from Arquà Petrarca, the burial-place of Petrarch, among the Euganean Hills, and is now in part dried up (Map II, 104).¹ The archaeological stratum lies directly on the bottom of the old lake, and is covered by a metre of peat, which has kept it free from admixture with later remains. We are not told the actual depth of the deposit, but it cannot be very great, as Cordenons states that the settlement was abandoned shortly after its foundation. There are two pile-structures, one on the south edge of the present lake, the other on the west. Both, however, are well in the centre of the lake in its ancient extent. The piles were set at irregular intervals, and covered with a staging of branches of varying thickness. The animal remains include those of the dog, wild boar, hog, ox, stag, goat and sheep. Vegetable remains are few. Cereals are stated by Cordenons to be entirely lacking, and he mentions only cornel-nuts and acorns, these last occurring in great number.

Stone implements. The stone-implements include two axes, a hammer, arrow- and lanceheads, knives and saws. One of the axes is of finely polished serpentine, pierced in the centre. The other axe and the hammer are of grey stone.

¹ Cordenons, *Antichità preistoriche anariane nella regione euganea*, Padova, 1888. Extract from *Atti della Società veneto-trentina di scienza naturale*, vol. xi.

Objects of bone, or stag's-horn were curiously rare (cf. ^{Bone and horn.} fig. 163). Several rings of stag's-horn are mentioned, which Pigorini agrees with Cordenons in thinking ornaments.

The pottery is extremely rough, and the clay is mixed ^{Pottery.} with small fragments of the trachyte found in the Euganean Hills. The ornament usually consists of strips of clay in relief arranged to form triangles or in a rough net pattern.



FIG. 163. Objects of bone, horn and stone from Lake Arquà. Scale c. $\frac{1}{3}$.
(After Alfonsi.)

A single vase is decorated with roughly incised curves. The handles are most varied, and include the cylindrical, the horned and the axe-shaped.

Cordenons, arguing from the absence of metal and the ^{Date.} abundance of stone, assigns the settlement to the neolithic age. The fallacy of such an argument has been shown elsewhere (see Introduction).

Later excavations on the edge of the lake of Arquà have

Excava-
tions of
1901.

thrown further light on the nature of the settlement. In 1901 the Museo Civico di Padova undertook a new exploration of the site. The most important results are as follows.¹ In those parts of the lake which were so shallow as almost to form islands, no true pile-structure was built, but the level of the earth was raised by means of stones, and a platform of wooden beams was laid on the level thus formed. Where the lake was deeper a number of stages were erected side by side, supported on long piles, and a level platform was made by laying the stages with split beams, earth and twigs. The deepest parts of the lake were uninhabited. The poles which supported the roofs of the huts were passed through the stage which formed the floor, and driven into the lake-bed. A fireplace formed of stones cemented together with earth occupied a place probably in the centre of each hut. No unbroken vases were found, and this fact, together with the almost complete lack of tools and weapons, suggests that the lake was abandoned at a definite period, the inhabitants taking all their possessions with them. Among the rarer finds were vases with incised ornament, and a spoon of terracotta. No metal object was found.

Excava-
tions of
1907.

Still more recent excavations have been carried out by the Museo Atestino. The results are not yet published. The material, however, included more incised vases, two earthenware spoons, and a small fragment of copper. To these must be added several small objects of stag's-horn, discoid in shape, and pierced in the centre (fig. 163). They are generally described as pendants, but they are similar to, though not identical with those of Polada, one of which was found in position on the pommel of the hilt of a triangular dagger of the usual early bronze age type. It would follow from this that these metal daggers were not rare at Arquà, for there are several of the horn discs, some in process of making. We can therefore assign the settlement to the end of the eneolithic or the beginning of the bronze period. Even if this evidence be not admitted, the fragment of copper found precludes the possibility of assigning the lake-dwelling

¹ *Bollettino del Museo Civico di Padova*, Anno iv (1901), n. 5-6.

to the neolithic period, and the vase-forms are distinctly eneolithic.

The pottery is of a dark grey colour with a grey surface. ^{The pottery.} The vases are rather rough, hand-made and unpolished, and the firing is fairly complete (see Pl. III, figs. 13-19, 21). Among the larger vases are several flat circular bowls used for cooking. These sometimes have a line of holes round the circumference just below the rim (Pl. III, fig. 17). Another large vase which very often occurs is a hemispherical basin set on four very short feet or knobs (Pl. III, fig. 14). Among the smaller vases the most noticeable are a series of one-handled cups, which find exact parallels in the western lake-dwellings. They are either spherical with a low cylindrical neck, or truncated-conical (Pl. III, figs. 13, 15, 16, 19). Quite distinct from these is a set of shallow vases, each with a high horned handle (*ansa cornuta*) rising above the rim. These were no doubt used as ladles. They have very close parallels in the *terremare*. The small clay spoons are also noteworthy.

The handles vary considerably. In the vertically-set ^{Handles.} handles the edges may be raised at the top, or the whole handle may rise to a point, or be fitted above with a clay button. It may come to an edge and broaden out (*ad ascia*), or branch out on each side to form a crescent or horned end (Pl. III, figs. 13, 16). This last type (*ansa lunata* or *cornuta*) has several varieties, though it never reaches the complexity which it afterwards attained in the *terremare*. There is also one example of a handle with two holes, bilobate, formed by superimposing one simple handle over another.

Simpler handles consist of a horizontal projection of clay, or of a mere knob, or of a low ridge of clay pierced to take a string.

The decoration is simple. The rims are often notched ^{Ornament.} to give a wavy effect. Ridges of clay are laid over the surface, and at times notched or pitted with the finger. Sometimes we have a semicircle in relief serving as a handle, or three short parallel vertical strips, as in the western lake group. Incision is rare, but the patterns are fairly

advanced when it does occur. In one sherd we have a set of parallel straight lines incised, and between each pair a row of punctures. Small knobs of clay are also used as ornament.

East and west pile-dwellings. Pigorini's theory.

Two groups.

The eastern includes the *terremare*.

Objections to Pigorini's division.

Fimon and Arquà cannot be grouped with the *terremare*.

We have now described the chief lake-dwellings of North Italy, and it remains to ask whether they form a homogeneous group, and to what period or periods they must be assigned. They are divided by Pigorini into two groups, an eastern and a western. 'I am inclined to think,' he says,¹ 'that the pile-dwellings of the Po Valley, despite the evident existence of relations between them, should be divided into two groups, an eastern and a western, representing perhaps two different branches of the same people.' The western group consists of the lake-dwellings of Lombardy and Piedmont, and the eastern includes those of the Veneto and also the *terremare*.² In 1889 Pigorini stated³ that 'The material coming from the *terremare* is perfectly identical with that found in the lake-dwellings of the Veneto, while it varies considerably from that found in those of Lombardy and Piedmont'. He therefore supposed that the western group was due to an invasion from the direction of Switzerland, while the eastern group, including the *terremare*, was due to a later invasion by another branch of the same people from the Danube Valley, an invasion which flooded Hungary, Bosnia, North-East Italy, Croatia, and even Lower Austria.

Now it is true that, as a whole, the eastern group including the *terremare* is later than the western, but there are two lake-dwellings of the eastern group which differ very materially from the rest, I mean those of Fimon and Arquà. I confess I am unable to follow Pigorini when he makes the statement above quoted that the material of the *terremare* is the same as that of the true lake-dwellings of the Veneto.

¹ *B. P.*, xiv, p. 124.

² The settlements described are divided between the two groups as follows :— (1) Western group: Trana, Ivrea, Mercurago, Lagozza, Brabbia, Varese, Capriano, Iseo, Polada, Lagazzi, Cataragna. (2) Peschiera and others in Lake Garda, Cascina, Saline, Fimon, Arquà.

³ *Not. Scav.*, 1889, p. 356.

If the only lake-dwellings in question were those of the Lake Garda I would readily agree, but they are not. The material of Fimon and Arquà appears to be much older and more primitive than that of the *terremare*. On the rarity of bronze in these two lakes we must not insist, for it proves absolutely nothing. But what seems decisive is the pottery. The typical pottery of the *terremare* is a good black polished ware, almost a *buccherò*, usually ornamented with simple designs in broad furrows. Of this I have, despite careful search, been unable to find a single fragment in either Arquà or Fimon. Nor is it possible to avoid the conclusion implied by this fact by supposing that the black polished ware was developed by these people after they left the lakes and moved south to build *terremare* in the Po Valley, for that they brought it into Italy with them is shown by its occurrence in both Hungary and Bosnia, where families of the *terramara* folk settled during the great march which for some of them ended in Italy. Exactly the same evidence is afforded by the study of the handles. The famous crescent-handle (*ansa lunata*), on which Pigorini partly bases his distinctions between east and west groups, does, it is true, occur at Arquà and Fimon, but only in a few elementary forms. But, it may be argued, the handle was further developed after these folk left the lakes and took to the Po Valley. How, then, could we account for the fact that the developed forms do not occur at Fimon and Arquà, but do occur at Ripač and Donja Dolina in Bosnia? Donja Dolina, it is true, is later than most *terremare*, but the finding of the various strange *terramara* handles there in the exact Italian forms can only mean that they were part of the inheritance of the great *terramara* folk before they left the Danube valley and split up to colonize Bosnia, Italy and other countries, and therefore Arquà and Fimon cannot belong to this invasion at all.

As to the lake-dwellings of Garda the question is more difficult. The major part of the material found is certainly of *terramara* type, but in the incised pottery (as opposed to furrowed), in the *brassards* or bracers, in the little slips of bone for sewing on dresses, it is possible that we have relics

They contain pottery which is not similar to that of the *terremare*.

Lake Garda shows strong affinities with the *terremare*.

of earlier days in the life of the settlement, before the influence of new-comers turned it into a 'lake-*terramara*'. This is, however, a mere suggestion, and I should be the first to admit it unproved.

Origin
of the
eastern
group.

Taking it for granted, then, that the lake-dwellings of Arquà and Fimon were inhabited before the true *terramara* folk entered Italy, how do we account for their presence? Two explanations are possible. Either they were built by the invaders from Switzerland who first settled around the western lakes and afterwards spread eastward, or they were due to another invasion into the Veneto about the same date as that in the West. Between these I fail to see how one might decide. The fact—which we shall try to demonstrate—that there is a close similarity between the material of east and west will equally well suit either hypothesis. Leaving aside the more general similarities between the two groups, such as that constituted by the rough grey or grey-black pottery, the stone implements, the bone daggers &c., we may notice a few details which are perhaps of even more value. For instance, the four-footed hemispherical vase (Pl. III, fig. 14) is found both at Arquà and at Brabbia, while the vases such as Pl. III, figs. 2, 3, 6 run right across the whole succession of lakes. The handles with raised edges (Pl. III, fig. 19) are found not only in the east group but also at Polada, and the crescent-handle in its early form is found at Arquà, Fimon, Polada and Cataragna, an example of curious form from the last-named (fig. 160) having an exact parallel at Arquà. Remarkable is the fact that most of the lake-dwellings, east and west alike, have yielded one or two specimens of good incised ware (fig. 164 and Pl. III, fig. 21). The rarity of these fragments and the comparative complexity of the patterns suggest that perhaps this was the remains of a method of ornament known to these people before they entered Italy, and already in its decline at the time of their immigration. Note, too, the placing of a button of clay on top of the vase-handle at Arquà and Polada, and the finding in these same two lakes of bone rings used, as we know from a Polada example, as pommels on the hilts of daggers, and, finally, the occur-

Similari-
ties
between
eastern
and
western
groups.

rence of small stone beads and rings in both groups (see fig. 163).

In fact, while recognizing that among the true lake-dwellings of North Italy there are, as one would naturally expect, considerable local differences, we note also a resemblance which can be observed not only in general but also in detail. This warns us to exercise great care in making a division. Pigorini's division, which groups Fimon, Arquà, Garda and Cascina Veronese with the *terremare*, though of course he holds them, with the exception of Garda, to be earlier, involves the difficulties already stated. It seems more rational to explain the phenomena of the North

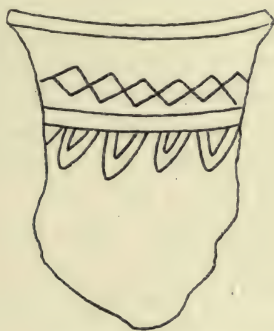


FIG. 164. Incised potsherd, lake-dwellings. Scale $\frac{1}{2}$. (After Colini, *Bull. Pal.*)

Italian bronze age as follows. A first invasion, possibly at two points, east and west, brings the people who built all the lake-dwellings except perhaps those of Garda; a second and later invasion brings the people who made the *terremare* and perhaps the lake-dwellings of Garda.

Treating the lake-dwellings as a single group, and excluding those of Lake Garda, which are certainly later, we must now ask what is to be gathered as to the life and civilization of the *early* bronze age lake-dwellers in North Italy.

There is only one source of evidence, the lake-dwellings themselves, for the graves and the hoards of bronzes found

Civiliza-
tion of
the
early
lake-
dwellings.

Evidence.

in this district belong mainly to a later stage in the history of this people.

- A. Flint. In the first place, flint is still in common use, in fact it is far more general than metal. Arrowheads of every form are common in all lake-dwellings, and daggers are not rare. In both these weapons the technique is almost always of the eneolithic type, the flaking being quite minute and regular. The old rectangular knife is disappearing, though examples still occur, as at Brabbia. Rhomboids are not common, despite several examples at Polada and Iseo, the latter of which gave also the half-rhomboid. An implement which seems to have been in general use is the so-called transverse arrowhead (fig. 51), one of the geometrical series.
2. Knives.
3. Geometrical implements.
4. Saws. Thus the flint industry was not entirely dead. It even took a few new forms in this period. These are the rectangular and curved saws common in the lake-dwellings and in the *terremare*. They are usually worked all over in rather fine flakes, and the saw-edge is not toothed, but adapted to its purpose by the flaking (fig. 162). Of special interest are the two saws of Polada (fig. 159), where small pieces of flint are set in a wooden handle.
- B. Obsidian. Lake Varese yielded several objects of obsidian, which point to trade with the islands of the Tyrrhene Sea, probably through the medium of Liguria.
- C. Polished stone. Polished stone implements still continue in use, and celts of various kinds of hard stone are not uncommon. The wedge-shaped axe with a hole for hafting occurs at Iseo, and the true hammer-axe, which we saw in eneolithic graves at Sgurgola and Viterbo, is represented at Arquà and Varese.
- Celts. Perforated axes.
- Brassards. Of polished stone, too, are the *brassards* of Arquà, Polada and Ca' di Cioss.
- D. Bronze. But bronze is already in use. The typical objects are the flat celt and that with flanged edges (fig. 165), and the triangular dagger with rounded heel (fig. 166). The last takes two forms, a smaller form, common in the eneolithic cemeteries, and a larger, belonging rather to the bronze age, though it occurred in an eneolithic grave at Viterbo.¹
- Celts. Daggers.

¹ B. P., xxix, p. 156.

Both these forms last on into the *terramara* period, though in the *terremare* they are rather unusual, especially the former. The latter has been found at Polada with its hilt complete (fig. 158). It was very often made with a hilt of bronze and fine incised work on the blade. In this form it penetrates as far north as Scandinavia, though its original home was certainly not far from North Italy.

A speciality of the lake-dwellings of Lombardy is the celt with wide-curved cutting-edge, *coltello-ascia*, of which the best-known examples occur at Cascina Ranza (fig. 167).

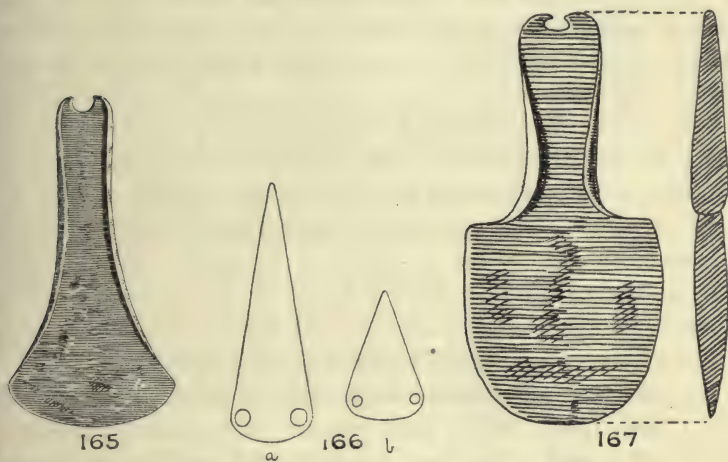


FIG. 165. Celt with flanged edges, lake-dwellings. Scale c. $\frac{1}{4}$.

FIG. 166. Types of flat copper daggers, lake-dwellings. Scale c. $\frac{1}{2}$.

FIG. 167. Axe with curved cutting-edge, *coltello-ascia*. Scale $\frac{1}{3}$. (After Colini, *Bull. Pal.*)

It is rare in the *terremare*, although it probably dates from that period. Other bronze objects also point to a more advanced part of the bronze age, such as the pins, the leaf-shaped *terramara*-daggers and the sickle. Still later are the one-edged concavo-convex knives (Pl. V, fig. 1), and the bracelets and necklets, which, though found in the lakes, do not belong to the early lake-dwellings and carry us to the beginnings of the iron age.

Bone and horn serve the usual purposes. Of stag's-horn E. Bone and horn. were made mattocks for agricultural work (fig. 163). The cubitus of the ox is still shaped into a rough dagger (fig. 163),

Later
bronzes.

and pieces of bone form polishers, harpoons and, at Polada, even knives. Among the smaller objects are conical buttons, arrowheads of *terramara* type, rough needles and borers (fig. 163). Teeth and boars' tusks were used as pendants.

F. Pot-
tery.

The pottery has been fully described under the separate stations. The figures given (Pl. III) will afford a good idea of the forms. The main point to notice is the complete contrast of this ware with that of neolithic Italy. The shapes are mainly new. The firing is poor and uneven. In many of the vases there is no attempt even to smooth over the surface, and the original vertical marks due to the trimming-knife are clearly visible. A few vases are smoothed, but none have the fine polish in which the neolithic people delighted. The rather fine incised patterns on a few of the vases are totally different to those of the pottery of North Italy in neolithic times. The little funnel-shaped vase of Polada and Cataragna is not known in neolithic Italy. It is identical with the *fischietto* of the *terremare* and may have reached Polada from the earliest *terremare*, though the chronology of this is doubtful. It is far more likely to have been an original possession of both the lake-dwelling and the *terramara* people before they reached Italy.

G. Orna-
ments.

Among the ornaments of the lake-dwellers pendants of teeth and boars' tusks and conical buttons have already been mentioned. To these we may add small stone beads (fig. 163), pendants of wood from Brabbia, and discs and rings of stone. A fine example of the last in white marble (?) is now in the University Museum at Oxford. The lake-dwellings also yielded a few pieces of amber, e.g. amber beads from Brabbia and Cataragna. With the ornaments we may class a small ring and a long button (?) of stag's-horn.

Civiliza-
tion of
the lake-
dwellers.
Bronze-
casting.

As to the general state of civilization in which these lake-dwellers lived, we may say that it was somewhat in advance of that of the people whom they found in Italy at their coming. They not only used bronze implements, but they worked the metal themselves, as we may see from the moulds found, for example, in Lake Varese. They were hunters of the wild boar, and they domesticated the cow,

Hunting.
A pastoral
people.

the sheep, the pig and other animals, which they used as food. They were also an agricultural people, though whether agriculture was regularly practised by them at the moment of their entering Italy is perhaps doubtful. Brizio, who denies to them all knowledge of this science at their coming, notes that in the lowest strata of the lake-dwellings of Isolino, in Lake Varese, only wild plants were represented.¹ To decide the question with certainty we should need a large number of very accurate observations. This much, however, is certain, that quite early in the bronze age these people cultivated corn and millet. The bowls pierced with holes, resembling the modern colander, are taken by some to point to the manufacture of some dairy product of the nature of cheese.

An agricultural people?

The age which the earliest of these lake-dwellings represent may be truly called eneolithic. That is to say, it is a period when stone was still in general use by the side of metal, and in preponderating quantity. The metal, however, is as a rule not copper but bronze, and it is quite possible that these invaders introduced the first knowledge of the latter metal into North Italy. The civilization which prevailed in Italy at the moment of their entry must have been that typified by the cemeteries of Remedello and Fontanella.

Date of lake-dwellings.

This chronological parallel is supported by a number of similarities between the material of Remedello-type and that of the lake-dwellers of the western group. This may be explained in two ways. Either we may suppose that both groups had been subject to the same influence in earlier days, before the lake-dwellers entered Italy, or we may attribute the similarities to trade between the old inhabitants of the district and their new neighbours. While not wishing for a moment to exclude the first explanation, we may be sure that the second must hold for some of the facts. It will be seen later that an exactly parallel case occurs in the other group of pile-dwellings.

Similarity between the material of Remedello and that of the lake-dwellings. Explanation of this.

The similarities in question hold in the case of metal, bone, stone and terracotta objects. The flanged axes of

Points of resemblance.

¹ *Ep. preist.*, p. xlix.

a. Flat
celts and
daggers of
metal.

the lake-dwellings (fig. 165) are in their most primitive form scarcely, if at all, in advance of those of Remedello-type, while the typical dagger of the lake-dwellings, flat and broad with a round base (fig. 166), is originally an eneolithic type, though in the hands of the lake-dwellers it takes a variety of sizes and shapes unknown before. Bone mattocks, polished stone axes and hammers, and flint daggers, spear- and arrowheads, finely worked on both faces, are identical in shape and technique in the two groups. We may note, too, the existence of the 'geometrical' flints in both. The pottery gives a few points of comparison. The typical lake-dwelling cup with pointed handle (Pl. III, fig. 20) has parallels at Remedello, Ca' di Marco and Toppo San Filippo (Pl. II, fig. 13). The handle with a button on top, found at Polada and Arquà (Pl. III, figs. 1, 7, 20) is found in the eneolithic period at Monte Bradoni. But as a whole the lake pottery differs considerably from that of Remedello and kindred stations. It does not preserve the old neolithic forms, and the finely polished ware of Remedello and neolithic Italy is foreign to it.

d. Orna-
ments.

It is among the small objects serving an ornamental use that we find the most numerous parallels. Conical buttons of varying material are found in eneolithic stations at Monte Bradoni and in Sardinia, while there are also examples from the lake-dwellings of Lagazzi and Polada. The small slips of bone and shell used at Remedello to cover a dress (fig. 144) are paralleled at Lagazzi. The *brassards* of stone found at Arquà and Polada are similar to those of the eneolithic period in Sardinia, and both groups have yielded beads and discoid pendants of stone (fig. 163).

Trade
between
the two
groups.

From these similarities of detail we may infer with great probability that the lake-dwellers carried on a certain amount of trade with the old inhabitants of the country. And in any case we get from these similarities a valuable chronological parallel, enabling us to ascribe these lake-dwellings to the Italian eneolithic period. We have no evidence for ascribing any of them to the neolithic age, as is done by some writers, though of course the point is not one which can be absolutely determined.

It will have been noticed that we have treated these lake-dwellings, with the exception of the Lake Garda group, as belonging to the earliest phase of the bronze age. Have we any evidence that the North Italian lakes continued to be inhabited during the later periods of the bronze age? Lake-dwellers of the later bronze age.

It may be said that—with the exception again of Lake Garda—no lake has given *palafitte* definitely referable to these later periods. In fact we have no evidence for asserting that this people continued to inhabit the lakes in large numbers, except for a few stray objects dredged up. But even if they had given up the pile-dwellings they had not moved far from the lakes, for they have left evidence of their presence in the cemeteries shortly to be described. Lack of evidence from lakes. Ceme-teries. These cemeteries, e.g. Coarezza and Monza, together with hoards such as those of Cascina Ranza and Lodi, enable us to keep in touch with this civilization throughout the bronze age down to the transition phase which leads to the iron age. The transition is shown in the graves of Moncucco, and the full iron age in the immense cemeteries of Golasecca.

It was in 1861 that the first tomb was found at Rogorea di Rogoredo ¹ (Map II, 79). This was an important discovery for it proved the presence of a cremating people in this part of North Italy. The burnt bones were placed in a roughly polished urn which was deposited in the bare earth. The urn also contained a razor similar to that of Monza, and a triangular pendant with six teeth along the base and a small handle at the apex. First discovery of cremations. 1. Rogorea.

These people, then, were accustomed to supply the dead with funeral furniture. Now the presence of the pendant dates the graves to the full bronze age. Do we know, then, whether it was due to the same race who in the early bronze age had dwelt in the lakes close by? It is almost beyond doubt that it was, for the old neolithic *Liguri* of this part of Italy certainly did not cremate their dead, and the custom can only have been introduced by new-comers such as we have supposed the lake-dwellers to be. Funeral rites.

Fresh light was thrown on these cremation burials in

¹ B. P., xiii, p. 138.

1868 when a number of urns containing burnt human bones and bronzes were dug up at Cattabrega di Crescenzago, near Milan, by workmen (Map II, 82).¹ Of the urns all traces are lost. An old peasant who was present at the 'excavation' states that they were found each in a mass of earth 'as black as charcoal', and that some contained nothing but burnt bones. Another eyewitness, when shown a large collection of vases and asked to point out those similar to the urns dug up in 1868, fixed first on an urn from the earliest burials of Golasecca and then abandoned this in favour of one from the *terramara* cemetery at Crespellano. Fortunately this is all we need. The vases he had in mind were without doubt very similar in shape to those of Monza.

b. Bronzes. The bronzes still in existence are—an axe with short broad wings and expanding slightly towards the cutting-edge, two daggers or swords with flattened heel, rivet-holes, and no tang, evidently broken before insertion in the urn, a hairpin with flat discoid head, concentric furrows above, and a small knob in the centre.

c. Date. The axes prevent our assigning the burials to the early part of the bronze age, while the absence of the tang on the swords might possibly be taken to prove them earlier than those of Monza. The black earth found around the urns was no doubt the remains of the funeral pyre. This is, perhaps, the earliest of the group of cemeteries with which we have here to deal.

That the same type of burial persisted towards the end of the bronze age was proved by a discovery at Coarezza (Map II, 76), where there was found an urn containing burnt bones and bronzes.² It was neither polished nor incised, and of height about 25 cm. The mouth was covered with an unworked piece of stone. The urn stood in the bare earth, and was accompanied by no accessory vase.

There is no doubt that we have to deal with a late bronze age burial. This is clear from the bronzes. These are a dagger of length 15 cm. and breadth 2.2 cm., three bracelets of bronze ribbon slightly thickened towards the ends,

¹ B. P., xii, p. 57.

² B. P., v, p. 77.

two incised with simple linear schemes and the third longitudinally fluted, three rings of rhomboid section and a hair-pin with double conical head.

It still remained, however, to excavate systematically 4. Monza a larger cemetery of this period, and this was done in 1890 at Monza where tombs had been discovered two years previously¹ (Map II, 80). Unfortunately the first lot, found in 1888, were secretly rifled by workmen in the night, and so many of the relics were broken up or lost. This a. Graves. group consisted of ten or twelve tombs, and the present remains are a few fragments of pottery and some damaged bronzes. The second group lay at a short distance from the first and consisted of five or six tombs. The burnt bones were in both cases enclosed in urns, and buried in a single hole among the remains of the pyre. No protection of any sort was placed around the urns, and the mouths were covered not with a basin but with a simple slab of stone. In the excavation, if it can be so described, of 1888, it was observed that the urns were at a depth of 50 cm. and extended over a curved line of 15 metres, standing at regular intervals of about a metre. No vase of any sort was found in or with the urns, and the only funeral furniture consisted of bronzes, some of them purposely bent or broken. Some of the urns contained nothing whatever except the burnt bones.

The most important bronzes consisted of a dagger of b. Bronze olive leaf form, a sword of present length 34·5 cm., bent and broken before insertion in the urn, a similar sword of lighter type, a razor of olive-leaf shape, an open bracelet of bronze wire and several hairpins.

The most important of the urns has a body of biconical c. Pottery shape, the sides of the cones being slightly convex and the keel rounded off (fig. 168). The neck is rather high and is splayed out slightly. In technique it is similar to the urns of the first period of the iron age at Golasecca. It is hand-made, of dark clay mixed with tiny fragments of marble. After a slight firing it was covered with a slip and then fired again. Round the neck, at the point where

¹ *B. P.*, xvii, p. 34.

it joins the body, run several incised lines from which hang semicircular festoons similarly incised. Another urn shows similar ornament, but the majority are plain (fig. 168).

d. Date.

It is not difficult to discover the chronological position of these burials. They show two sets of affinities, firstly, with the earliest iron age burials of Golasecca, and, secondly, with the other burials of the bronze age in the west part of North Italy. The urns, except for the height of the neck, resemble very closely those of Golasecca, especially in technique. They are manifestly earlier for several reasons. They are, for example, nearly all undecorated, and what

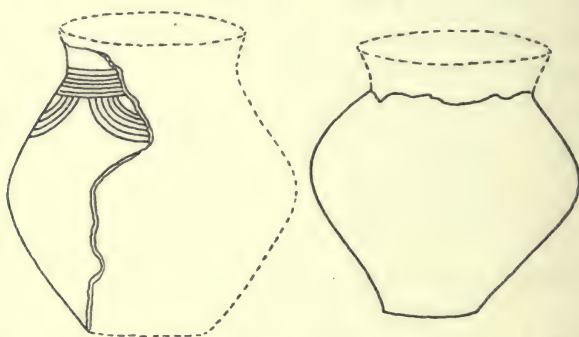


FIG. 168. Rough ossuaries, cemetery of Monza. Scale $\frac{1}{8}$. (After *Bull. Pal.*)

decoration there is of an early type. Besides, the graves are unprotected by slabs of rock; a mere piece of stone serves to cover the urn instead of the basin of more advanced times, and accessory vases, never absent at Golasecca, are here unknown. We may safely say, then, even without calling in the evidence of the bronzes, that Monza is earlier than the earliest burial at Golasecca.

On the other hand it shows the closest analogies in every respect with the burials of Coarezza, Cattabrega and Rogorea.

5. Albairate.

Closely related to the cemetery of Monza, too, is that discovered at Albairate (Map II, 84), province of Milan, in 1900.

Several urns were found, isolated from one another, containing bronzes, among which were several knives or

daggers of *terramara* type.¹ A second search revealed more urns which have been preserved in their original state, some in fragments, others almost intact. These urns, some thirty in number, allowing for those in fragments, seem to have been buried in couples, a large and a small one together, closed with a basin set upside down. They all stood in the bare earth, unprotected, among the remains of the pyre.

Having regard to the arrangement in pairs and the use of a basin to cover the urns, one would be inclined to place these burials later than those of Monza. But until we have further details, especially with regard to the bronzes, it would be foolish to give any opinion.

These cemeteries enable us to form a very clear idea of the method of burial employed by these people in the later part of the bronze age. The body was cremated and buried in an urn, usually biconical in form, in the bare earth, without any protection whatever except a flat stone or inverted basin over the mouth of the urn. The urns were not buried deep and were probably arranged in some definite order. The body was accompanied by funeral furniture in the form of bronze objects, often broken before deposition.

These graves resemble in some respects those of the *terramara* people to be described in the next chapter. But they differ in two important points. In the first place, funeral furniture which is usual in the present graves is almost lacking in these of the *terremare*, and, secondly, the close packing of the ossuaries so usual in *terramara* cemeteries has never been observed in these.

As to the date of these graves, it cannot be too strongly insisted that no burials corresponding in date to the earliest lake-dwellings have yet been found. This is the more to be regretted as a piece of evidence in the great ethnological controversy regarding the bronze age is thus lost, for we cannot with absolute certainty assert that the lake-dwellers when they founded their first settlements employed cremation. At the same time it is highly probable that they did. For,

¹ B. P., xxviii, p. 190.

if not, we have to suppose that they changed their rite after their arrival in Italy, which is almost incredible. In any case be it noted that no inhumation grave dating from the bronze age has been found in this part of Italy.

Distribu-
tion.

As regards the distribution of these cremation cemeteries it must be noticed that they all lie in Lombardy close to the lakes forming the most westerly part of Pigorini's western group. Unfortunately we have no graves which can be in any way connected either with the other lakes of the western group, e.g. Iseo and Garda, or with the eastern group, e.g. Fimon and Arquà.

Dwellings
of the
later
bronze
age.

Finally, it may be asked whether anything is known of the habitations of the people who formed these cemeteries. It is true that objects similar to those of the graves are occasionally dredged up in the lakes, but this does not warrant the statement that the people were still lake-dwellers. From the position of the cemeteries one would suspect that they had, at least in part, abandoned the lakes and were now living in huts further to the South.

Bronze
hoards.

We do, however, just catch a glimpse of the life of these people in the two important *ripostigli* or hoards of bronzes found one at Cascina Ranza and the other at Lodi.

Cascina
Ranza.

Cascina Ranza lies outside the Porta Ticinese at Milan (Map II, 83).¹ In 1887 a hoard of bronze weapons was found in a clay pit, accompanied by a polished axe of green stone and some potsherds. The number of bronzes still in existence is fifty-two.

1. Axes.

Two are axes with a broad blade of semi-elliptical form (fig. 167); the edges of the upper part are flanged and there is a circular indentation in the heel. Four similar instruments were found in the lake-dwellings of Lake Varese and another in the peat-bed at Trana in Piedmont. Axes of this type, but with narrower blades, come from the *terramara* of Castione and the pile-dwellings of Peschiera. They also occur in the Swiss lake-dwellings of Gérofin, Moerigen and Morges, and in France. This form is known as the *coltello-ascia*.

Three of the axes are much lighter than the rest, with

¹ B. P., xiv, p. 145.

a narrow blade, flanged concave edges and a slight indentation at the heel. This form Castelfranco calls a chisel, believing that it is too fine and delicate to be used as an ordinary axe. It is not found elsewhere in Italy, but it occurs in Switzerland and France.

Other heavy axes, with blades of various shapes, were probably made by cutting down and re-forming the broad-bladed shape above mentioned.



FIG. 169. Bronze-hilted short sword, Cascina Ranza. Scale $\frac{1}{4}$. (After Colini, *Bull. Pal.*)

The spearheads found were leaf-shaped with a conical socket which was ornamented with rough incisions. The spearhead of this type occurs more often in Italy towards the end of the bronze age, as, for example, in the *terramara* at Montirone, and is generally in company with the true chisel and the violin-bow fibula.

A short sword of length 33 cm. has its sides parallel, and there is a slight central rib. The point is sharp, while at the heel the sword broadens out to about double its width.

2. Spearheads.

3. Sword.

The end is round and holds two rivets. The type is also known at Povegliano and in the *terramara* of Castione.

4. Daggers. Two daggers are of the typical Italian form. The handle is of bronze and fits on to the blade by means of a crescent-shaped ridge through which the rivets pass. The blades have a slight central rib and the edges are in one case highly concavo-convex and in the other less so. The surfaces of the blades are finely incised with groups of lines parallel to the edges and meeting on the centre-line (fig. 169).

This hoard undoubtedly belongs to the full bronze age, for neither the *coltello-ascia* nor the spearheads can be dated earlier. It is therefore contemporary with some of the graves we have examined and no doubt is due to the same people.

Lodi. Unquestionably later is the hoard found near Lodi (Map II, 86), which consisted of thirteen axes and four neck-rings.¹ The axes are all of the *coltello-ascia* type similar to those of Cascina Ranza and Trana. The neck-rings are of cylindrical bronze wire, 6 mm. thick at the centre and $2\frac{1}{2}$ mm. near the ends. The ends are beaten out fine and coiled outwards.

These neck-rings with their hammered-out ends take us on to the confines of the iron age. It is, indeed, strange that the period between the early bronze age and the iron age as seen at Golasecca should have left such faint traces, and it is to be hoped that further excavation will be undertaken with a view to throwing more light on this dark period and filling up this blank in our knowledge.

¹ B. P., iv, p. 7.

CHAPTER XIV

THE *TERREMARE*

A *terramara* has been defined as a lake-dwelling on dry land. It may be more exactly described as a settlement of trapezoidal form, orientated roughly north and south, and supported on piles. The whole settlement is enclosed by a rampart of earth, outside which lies a moat supplied with running water by a neighbouring stream.

Defini-
tion of a
terramara.

Such are the essential features of a *terramara* which serve to distinguish it on the one hand from the true lake-dwellings built in lakes, or at any rate in marshes, and on the other from ordinary hut-villages, where the huts are not raised on piles, but usually hollowed in the earth.

The more minute details of a *terramara* we shall study shortly from actual examples. For the moment we must turn aside to consider the history of research into the nature and origin of these settlements.

History
of dis-
covery.

For many years the peasants of the Po Valley in the neighbourhood of Parma and Modena have been wont to use as a fertilizer a certain kind of soil which they call *terra marna* or *terra mara*. This soil is found in large low mounds, many of which have now been entirely used up. In these, which generally consisted of several strata of varying colour, were sometimes found objects of stone, bronze, horn &c. The Italian Venturi, in 1822, called these mounds 'fire-necropoleis', and attributed them partly to the Romans, whose coins and tiles had been found in the soil, and partly to the Boii, 'a Celtic tribe who here cremated their dead warriors and ceremoniously threw their weapons and animals taken in war into the burning pile.' Even in 1861 Gastaldi declared these mounds to comprise remains of various ages, including Roman graves, washed down and stratified by floods. The same year the remains of a *palafitta* were discovered beneath the *terra marna* bed

a. *Terra
marna*.

b. Fire-
necropoleis.

c. Gastaldi's
theory.

at Castione. A report was issued in 1862 which destroyed once and for all the old theory that these mounds were cemeteries, and established the fact that they were habitations. In a later report issued in 1864 no importance was even now attached to the presence of piles, and they were not regarded as an essential feature of the *terramara*, but as due to the particular geographical conditions. It was left to Chierici to show that the piles formed a necessary part of the structure, and he supposed that the *palafitta* was built in an artificial basin, through which water was made to flow. In 1871 the International Congress of Prehistoric Archaeology, held at Bologna, gave a great impetus to further investigation. It was at this Congress, too, that the word *terramara* (plural, *terremare*) became crystallized as a shorter form of *terramarna*. In 1877 fresh excavations at Castione revealed new and astonishing features. Since that date almost every excavation has added to our knowledge of the *terremare*. In 1890 Munro gave to English readers a full account of what was then known. Since then further discoveries have been made, and much of what then seemed likely is now disproved. We must, therefore, take up the story where Munro left it, and try to get some clear idea of the main features of a *terramara* as now known.

d. Chierici.

e. Congress at Bologna.

f. Excavations at Castione.

g. Munro's summary.

Method of our inquiry.

The method on which we shall carry out our inquiry is as follows. We shall lay aside all the earlier hypotheses, based as they are on unscientific excavation and often on the merest guesswork, and we shall take the question up at the point where archaeologists began to excavate *terremare* with every possible care, and with definite objects in view.

We must therefore consider in order of date some of the most important *terramara* excavations of late years, carefully noting what points each established definitely. Only when this has been done shall we be able to sketch in the complete picture of a *terramara* as we know it at present.

Excavations at Castellazzo.

It was in 1889 that the scientific excavation of the *terramara* of Castellazzo di Fontanellato, in the province of Parma, was begun (Map II, 119). The results of the excava-

tion were numerous.¹ In the first place, it was shown that the *terramara* had served as a habitation for man; while, in the second place, the finding outside the *terramara* of the cemeteries used by its inhabitants disproved once and for all the theory of Venturi, that the *terremare* were themselves

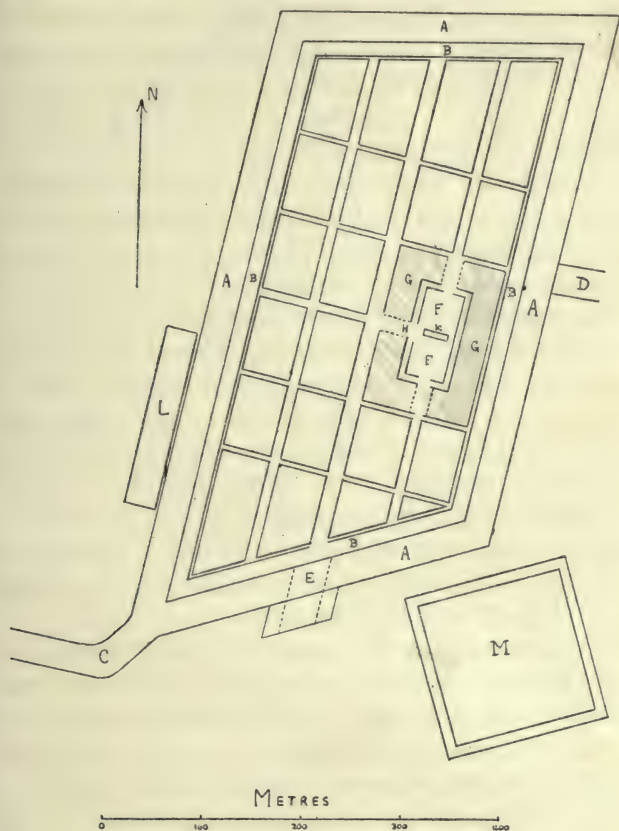


FIG. 170. Plan of *terramara* of Castellazzo. (After Pigorini, *Bull. Pal.*)

necropoleis. In addition to this, important evidence was obtained as to the shape and size of the settlement (fig. 170).

It is situated in the plain and consists of a pile-settlement surrounded by a rampart and moat. When these latter are

a. Shape
and size.

¹ *Not. Scav.*, 1889, p. 355; 1891, p. 304; 1892, p. 450; 1895, p. 9; *Mon. Ant.*, vol. i, part i, p. 121.

b. The
moat.

taken into account the structure is trapezoidal, the parallel sides being orientated slightly east of north. It occupies an area of 187,891 square metres, the greatest length being 641 metres, the shortest length 537 metres, and the breadth 319 metres. The moat (A) is nearly 30 metres broad and has a maximum depth of 3.50 metres, the rampart or *argine* (B) is 15 metres broad at its base. The moat was continually filled with running water from the neighbouring stream Fossaccia. The water entered the moat at the south-west corner by a trench (C) of the same width as the moat. This trench made a rather sharp bend just before entering the moat, so that the force of the current was expended on the angle of the trench, which was strengthened with stones, instead of impinging directly on the corner of the *argine*. This corner, being acute, parted the waters and sent part along the west side of the moat, part along the south. The water thus completely encircled the station and flowed off by a shallow trench (D), 30 metres broad and 0.60 deep, in the middle of the east side of the moat. Access to the *terramara* was obtained by means of a single bridge (E), in the centre of the south side. This bridge was of wood and its base, which was found still in position in the bed of the moat, is 30 metres wide. At this point the moat, for a distance of 60 metres, is broadened from 30 metres to 60 metres, so that the bridge is of length 60 metres.

c. The
rampart
and its
buttress.

On close examination the *argine* was found to slope gently down to the moat on its outer side, and to be cut off vertically on the inner side. This vertical surface is due to the fact that the *argine* rested on the inner side against an ingenious wooden buttress or *contrafforte*, which is 2.50 metres in width, and of which signs still remain. It was, however, much better preserved at Castione dei Marchesi, and will be described in discussing that *terramara*. Further details of the *argine* will be found in our account of Montata dell' Orto.

d. The *area*
limitata.

Within the east *argine* and at a short distance from it lay a huge mass of natural earth, heaped up artificially in the form of a parallelopiped (F). Seen from above it is, of course, rectangular, measuring 100 metres from North to

South and 50 metres from East to West. Its east and west sides are parallel to those of the *terramara*. Around it runs a moat 6 metres in depth and 10 in width (G), which divides the rectangular area on the West from the road which ran along the north-and-south centre line of the station. Now the distance from this moat to the centre line is 7.50 metres, and as this centre line probably bisected the road, this latter must have had a width of 15 metres, just half the width of the base of the main bridge by which this road entered the *terramara*.

This *area limitata* (F), surrounded by its own moat, is without doubt the *arx* or *templum* of the station. On it are found no signs of a pile structure, such as occur everywhere else within the *terramara*. In addition to a moat this area possessed a *contrafforte*. The existence of this *contrafforte* was suspected from the first, because it was seen that the earth of the *area* rose vertically from the edge of the inner moat. Without some contrivance to hold it in position this earth would naturally have caved into the moat. This was prevented by a kind of buttress, of width 5 metres. Six rows of piles were driven into the virgin soil parallel to the moat, the foremost row being on the actual bank of the moat. Strong wickerwork was laid between the piles, and the whole presumably filled with earth. In order of building the *contrafforte* must have been set up first, then the moat dug outside it, and the excavated earth dumped inside the *area* and against the *contrafforte*, which thus formed a retaining wall. It should be noted that its use is quite different from that of the outer *contrafforte* of the *terramara* itself, which serves to support the *argine*.

The *area* was entered at the mid-point of its western side by a bridge (H), the direction of which is at right angles to the north-and-south centre line of the *terramara*. Remains of this bridge were found in the moat and measured 15 metres across at the base, just half the width of the great southern bridge over the outer moat. This inner bridge connects itself naturally with the great east-and-west road of the *terramara*, just as the outer bridge connects itself with the great north-and-south centre line road. But we have already seen that

e. Moat and buttress of the *area*.

f. Bridges and roads.

the latter road is 15 metres wide, and that the base of the great bridge leading to it is 30 metres. It is therefore probable that the actual gangway of a bridge was half as wide as its base. If this is so, the inner bridge with a base of 15 metres would have a gangway of 7.50 metres, which would be the width of the cross-road. In other words, as Pigorini has pointed out, we have simply the plan of a Roman camp with its *cardo maximus* double the width of its *decumanus maximus*.

g. Ritual
trench and
pits.

Within the *area* and on the line bisecting its east and west sides, i.e. on the line of the *decumanus*, appeared a trench (K), 25 metres long, 5 metres broad, and 3.50 metres deep. The earth which filled it contained Roman tiles, proving that when the Romans found the *terramara* this trench was still partly open. The bottom of this trench, formed by the virgin soil, is only half as wide as the top, for the sides are not vertical but slope in. In this bottom, i.e. in the original level of the plain, are hollowed five pits, each 1.50 metres deep. Four are rectangular, 5 metres by 2.50 metres, while the fifth and central pit is 1.50 metres square. Each pit is divided from its neighbours by a wall of earth of from 0.50 to 1.00 metre in thickness, and each is covered by a wooden lid supported by cross-beams. The pits contain a muddy deposit in which are mingled a few *terramara* potsherds, animal bones, flint flakes, and numbers of shells of *Unio pictorum*. The pits show no sign of having contained water, and the mud in them is due to infiltration of rain-water. They are, in fact, a kind of ritual pit, the prototype of those found in Roman camps of the German *limes*. They were dug when the *decumanus* was first marked out, before the station was built, at the same time that the *solco augurale* (see Mortata dell' Orto) was drawn round the station. The remains found in them represent the *signa* which we know were thrown into the trenches which marked the limits of a Roman camp. This point, however, will be discussed elsewhere in dealing with the ethnological relations of the Romans and the *terramara* folk.

h. Dis-
covery of

Particularly interesting is the discovery of the contemporary settlement occupied by the *terramara* folk during

the building of the *terramara* itself—a work doubtless of some length. About 600 metres south-east of the *terramara* were found at a slight depth a number of mounds of artificial earth. These contained fragments of pottery exactly similar to those of the *terramara* itself, animal bones, charcoal and ashes.

a temporary settlement.

Two cremation cemeteries (L and M) were found outside the moat of the *terramara*. One lies to the South-East and is square. The side nearest the moat lies only a few metres from it and is parallel to it. These cemeteries will be more fully described later in this chapter.

i. Cemeteries.

Although much light had been thrown on the nature and form of the *terremare* by the excavation of Castellazzo, many points still remained uncertain. It still remained to discover whether the *terremare* offered any traces of distinct stratification, or whether each served as a habitation for a short period and was then abandoned. This point was settled by the excavation of the *terramara* of Castione dei Marchesi (Map II, 118) by Pigorini.¹ It was proved that within the same rampart and moat three successive structures had existed, each being represented by a distinct stratum of *terramara*. Apparently, when the refuse, which was only thrown down among the piles, had reached the level of the platform on which the huts were built, the settlement was set on fire and a new pile-structure was built over the ruins of the old. This idea accounts for the fact that in so many *terremare* traces of fire have been found.

Further points to be decided.

Castione dei Marchesi.
a. Stratification.

It will be remembered that at Castellazzo it was impossible to observe the details of the construction of the *contrafforte* or buttress. At Castione this feature was in places excellently preserved. As at Castellazzo, so here too, it was of wood, and served to support the *argine* or rampart on its inner side. It consisted of a series of rectangular cages lying side by side, along the inside of the rampart. The beams used were roughly squared and laid regularly one above the other, being let into one another at the corners. The beams on the inner side of the cages, i.e. the side furthest from the rampart, are longer than the rest,

b. Details of the buttress.

¹ *Mem. Acc. Linc.*, ser. 3^a, vol. viii.

and thus, passing from one cage to the next, they serve to dovetail the whole series together. On the inner side of the *contrafforte* is a row of piles which serve to keep it in position. The lower part of the *contrafforte* at Castione is filled with a compact mass of clay and rough tree trunks. It was noticed that above this, though still within the *contrafforte*, was a layer of *terramara* identical with that of the lowest stratum of the settlement. This proves that when the second pile-structure was built the *contrafforte* was raised to allow for the additional height of the new building, due to its lying above the ashes and refuse of the old.

c. Was the
basin
filled with
water?

But this was not all that was learnt at Castione. It had hitherto been believed by many that within the rampart of the *terramara* was an artificial basin of water, in which the pile-structure was built. Chierici, for example, had noticed that in the third or lowest deposit of *terramara* at Bellanda the deposit contained several thin strata marked with charcoal, thus giving the appearance of a stratum formed under water. In the second stratum, i. e. that lying immediately above this, he observed that the deposit seemed to have been laid down on dry soil, or at least without the aid of much water. He therefore supposed that with the general raising of the level due to the construction of the new settlement on the ruins of the old the introduction of water into the basin became an impossibility. The excavations at Castione, however, proved that all the three deposits were laid down on practically dry soil, and that any water which lay in the basin was merely rain-water which had accumulated there. Chierici himself accepted this view. The further excavations in the *terremare* have quite removed any doubt which might have remained, by proving that no means existed whereby the basin could have been kept flooded. Running water was indeed used, but only for the moat and not for the basin.

Do all
terremare
conform
to a
type?
Rovere di
Caorso.

After the excavation of Castione the main features of the *terremare* might well be said to be known. It remained, however, to ascertain whether these features were to be found in all *terremare* or whether they varied. This was the main interest of the exploration in 1893 of the *terra-*

mara of Rovere di Caorso, which lies 14 kilometres east of Piacenza¹ (Map II, 114). This settlement proved to resemble those already described in form, differing from them mainly in dimension. A full description is therefore unnecessary. a. Size.
The sides measured 170, 150, 135 and 130 metres respectively.

It should be noticed that the *area limitata*, which lay as b. The area.
usual in the eastern half of the *terramara*, was surrounded by a moat of the same width (10 metres) as that which encloses the whole *terramara*, but twice as deep. This extra depth is explained if we suppose this inner moat to have been kept filled by the natural penetration of water from the outer. The ritual pits, unlike those of Castellazzo, were only three in number, but they contained the same muddy deposit with flint flakes and cores, fragments of *terramara* pottery and shells of *Unio pictorum*.

An examination of the virgin soil beneath the *contrafforte*, c. Trench beneath the buttress.
directly within the *argine*, revealed a small trench or furrow filled with a mixture of potsherds, shells and pebbles, a somewhat similar collection to that found in the ritual pits. We shall discuss this trench in connexion with the *terramara* of Montata dell' Orto.

South of the settlement were found at a short distance d. Cemeteries.
two cemeteries, probably one on each side of the road leading by the main bridge over the moat into the *cardo* of the *terramara*. Thus the occurrence of cemeteries at Castellazzo was not an isolated case.

Our picture of the *terremare* would now seem to be nearing Further questions for elucidation.
completion. Yet even after the exploration of Rovere di Caorso there remained much to be done. During the years which succeeded the first scientific excavation of the *terremare*, speculation had been rife as to the race to whom they were to be attributed. Sergi had declared that the *terremare* were the remains of Roman camps, mistaken by over-zealous excavators for bronze age settlements. Brizio held that they were due to the old neolithic *Liguri* who had been driven by inundations of the Po Valley to raise their hut-villages upon piles. Pigorini maintained that they were due to a new people, the *Italic*i, who had for centuries

¹ *Not. Scav.*, 1894, pp. 3-9, 373-6; 1896, pp. 57-61; 1897, pp. 132-4.

dwelt in lakes and who, now that they had taken to dry land, still loved to reproduce artificially the feeling of safety afforded by dwelling over water.

Montata
dell'
Orto.

Could not the construction of the *terremare* themselves decide between these various hypotheses? The answer came in 1898 when the *terramara* of Montata dell' Orto was finally explored¹ (Map II, 117).

a. Its situa-
tion on a
hill.

This *terramara*, though situated on a hill, preserved all the essential features of the *terremare* of the plain. The hill is flat on top, and the limits of the *terramara*, trapezoid in shape, correspond with those of the plateau thus formed. Thus the rampart ran along the edge of the plateau, while the moat was of necessity dug round the hill at its base. Now, as the hill itself was sufficient defence against floods, the moat must have been added merely because it was a definite feature of a *terramara*. This speaks strongly against Brizio's interpretation of the *terremare* as Ligurian hut-villages raised on piles to avoid the dangers of floods, and gives countenance to Pigorini's idea that the *terramara* was a development of the lake-village, and that its essential feature was that it should be surrounded by water. This question, however, will be more fully dealt with in Chapter XVIII.

c. No Ro-
man re-
mains.

Whether the evidence of this *terramara* alone be final in deciding between the views of Brizio and Pigorini is perhaps an open question. It is, however, beyond doubt that it excludes Sergi's idea that the *terremare* were Roman camps, for neither in the *terramara* itself nor in the filling of the moat were any signs of Roman remains discovered.

Besides affording evidence on these general questions, the excavation of Montata dell' Orto has given other results, some new, some merely confirmatory of what was already known.

d. The ram-
part.

We have already mentioned that the *argine* or rampart ran round the edge of the plateau.

On the outside this *argine* rises in a fairly gentle slope, on the inside it is cut off vertically, and the earth at once changes in type. The new earth is of course the filling of the *contrafforte* or buttress, which, being of wood, has

¹ B. P., xxvi, p. 151; *Not. Scav.*, 1900, p. 118.

perished. The *contrafforte* was vertical on its outer side, i. e. the side against which the *argine* rested, and this accounts for the earth which formed the *argine* ending in a vertical plane.

At the foot of the *argine* and inside it runs a small trench, 0.45 metre broad and 0.40 metre deep, filled with earth containing pebbles and sherds of *terramara* pottery. This feature recurs at Rovere di Caorso. From its position it must have been dug before the construction of the *contrafforte*, and, *a priori*, before that of the *argine*. Moreover, as the *contrafforte* concealed it, it can have played no part in the life of the *terramara*. It can only be, therefore, an augural trench (*solco primigenio* or *augurale*), by which the limits of the station were first solemnly marked out. e. Solco
augurale.

At a distance of 30 metres outside the *argine* ran the great moat, 15 metres broad and 4 metres deep. As the *terramara* occupied the whole of the plateau, the moat was of necessity cut at the foot of the slope. In places the slope itself formed the inner bank of the moat and was lined with stones to prevent erosion. The moat runs parallel to the *argine* throughout its length, and on the east side is still open, and in rainy weather contains water. In old days the water of course entered the moat at the acute angle, i. e. at the most northerly point. f. The
moat.

The *area limitata* presented no new features except for the fact that it was not separated from the rest of the settlement by a moat as at Castellazzo and Rovere di Caorso. It was in fact bounded on the East by the *argine* and on the West by the *cardo* or north-and-south road. The area.

The ritual pits, five in number as at Castellazzo, appeared to have been once covered by wooden lids, the carbonized remains of which were found within them.

The results of the various excavations above described are as follows. The true *terremare*, though varying in dimensions, are constant in form. The typical *terramara* may therefore be described as follows. It is a pile-built settlement, trapezoidal in shape, with its east and west sides parallel and running roughly north and south. It is built on dry land, but surrounded by a broad moat filled with running Essential
features
of a terr-
mara.

water. On the inner side of this moat is an earthen rampart supported within by a wooden buttress. The settlement is divided into four by a pair of roads crossing at right angles in the centre. In the eastern half lies the *arx* or *area limitata*, a rectangular mound of heaped earth, sometimes divided from the rest of the settlement by a moat. Within the *arx* is a ritual trench, at right angles to the parallel sides of the *terramara*, and hollowed at the bottom of this trench are from three to five ritual pits. Close outside the settlement lie, in some cases at least, its cemeteries, two in number.

Position
of the
most
acute
corner.

It is worthy of note that as the sharpest angle of the trapezoid was set to face the stream which supplied the moat with water, the *terremare* north of the Po, where the streams mainly run southward, have the sharpest angle to the North, while those south of the Po have this angle towards the South. The *terramara* of Montata dell' Orto above described is, for geographical reasons, an exception to this rule.

Distribu-
tion of
the *terre-*
mare.

The distribution of these settlements is best understood from Map II. They are most thickly set in Emilia, where they extend along both sides of the modern railway line from Piacenza to Bologna. Another thick group lies in the *comune* of Mantua. In the provinces of Brescia and Cremona they are less thick, though there are several examples. In the Veneto, except on the Mantuan border, there are no *terremare* as yet known. There is, however, a certain amount of material from Sona, Tarmassia, and Maccacari in the province of Verona,¹ which suggests very strongly that the stations in question were *terremare*.²

¹ Martinati, *Storia della paletnologia veronese*, Padova, 1879, p. 23.

² The material from Sona, province of Verona, now lies in the Museo Preistorico at Rome. It includes two types of so-called net-sinkers, the one ovoid, made of stone, with a furrow round the middle, the other of terracotta, depressed-spherical in shape, pierced through the centre. The flints include axes and curved saws. Of bronze there remains only a pin with spherical head. The pottery is all of *terramara* type. The ornament is incised or furrowed, or consists in round depressions in the surface of the vase, or knobs raised on it. *Ansa lunata* occurs, together with a series of miniature vases. Finally, there are discs of terracotta, less than 10 cm. in diameter and pierced in the centre.

Pigorini gives, as a rough limit of the *terramara* area on the western side, the rivers Mella and Oglio. He is sometimes represented as saying that this is also the dividing line between his eastern and western groups of true lake-dwellings (excluding, of course, the *terremare*). This is not his view at all. The line of division would be, according to him, roughly a north and south line through Lake Garda.

Thus the *terremare*, while occupying the country of the eastern lake-dwellings, also spread into that of the western, besides crossing the Po towards the South.

Having treated the form and distribution of the *terremare*, we have next to try to form some idea of the people who inhabited them and of the civilization which they enjoyed. To do this it is necessary to examine in detail the remains actually found, i.e. the objects and implements used in their everyday occupations, and the refuse left by them, such as animal bones and vegetable substances.

The sources of our evidence on these points are three, the *terremare* themselves, the cemeteries, and the isolated hoards of bronzes. Unfortunately, the last two sources give us little help. It was apparently the custom of this people, as we shall see later in the chapter, to bury their dead with little or no funeral furniture, and thus beyond the vases, which served as ossuaries, the cemeteries give us practically nothing that can throw light on the industries and life of the *terremare*.

Hoards of bronzes from the *terramara* country are unfortunately few in number, and in questions of dating they are subject to the objections mentioned in the Introduction in speaking of hoards as evidence. The most important is that found at San Lorenzo in Nuceto, near Forlì, where, in 1674, was discovered¹ a hoard of forty-one axes, five or six daggers, and a bracelet (Map II, 144). The axes are of the type with flanged edges, in some cases with a circular

^a All this material is of exact *terramara* type, and the settlement is quite likely to have been a *terramara*.

Similar material came from Tarmassia and Maccacari in the same province.

¹ Montelius, p. 161, Pl. XXVII, figs. 7 and 8.

Western limit.

The inhabitants of the *terremare* and their culture.

Sources of evidence.

a. Cemeteries.

b. Hoards of bronzes.

e.g. San Lorenzo.

indentation in the heel. The daggers are of typical bronze age form, the handle as well as the blade being of metal. The bracelet is spiral in shape, made of thick bronze or copper, polygonal in section. It is extremely doubtful whether the bracelets and the axes are types which were ever in use at the same time.

Two other hoards, those of Castione and Ripatransone, are of no great value, as each contains only one type of object, viz. triangular daggers.

c. The
terremare
themselves.

Can we
subdivide
the *terra-*
mara
period?

Excava-
tion gives
little
basis for
sub-
division.

We are thus left to depend for evidence almost entirely upon the *terremare* themselves. And here it will be asked whether we are enabled by this evidence to distinguish various periods in the material of the *terremare* as a whole. Unfortunately the answer to this must be in the negative, for though various successive strata have been distinguished in some *terremare*, notably that of Castione, no excavator seems to have succeeded in assigning various types to the separate strata. Even in cases in which we can definitely state that one type is of later origin than another, the evidence is either drawn from observations in other districts or is typological, i.e. it depends on showing that the one type is a development of the other. It cannot, in fact, be too strongly insisted on that, despite the large number of *terremare* excavated, no adequate attempt has yet been made to arrange the material in a chronological series. It is to be hoped that in future excavations some effort will be made to gather evidence for such an arrangement.

The
material
found
in the
terremare.

Under these circumstances we have thought it best to describe the *terramara* products according to the material of which they are made, noting, where possible, whether the object is early or late in the series.

Stone
objects.

The stone objects need not detain us, for they are few in number, and offer no new forms. Stone had, in fact, been almost completely replaced by bronze.

Bronze
objects.
A. Celts.

Among the most typical bronze forms are the axes. The celt with raised edges (fig. 165), common in the lake-dwellings, is still in use in the *terremare*, but it is accompanied by the winged celt (Pl. V, fig. 9).

As the period advances the wings tend to move up towards the heel, and we pass very gradually into the early socketed forms of the iron age.

Occasionally we still find the flat dagger with round heel B. Dag-
typical of the lake-dwellings (fig. 166). Much more usual ^{gers.}
is the leaf-shaped dagger with rhomboidal section and a very ^{Type (a)}
varying tang (fig. 171). In the earlier examples the tang ^{flat dagger.}
is rudimentary, but in the later it is either long and spike- ^{Type (b)}
^{leaf-}shaped.

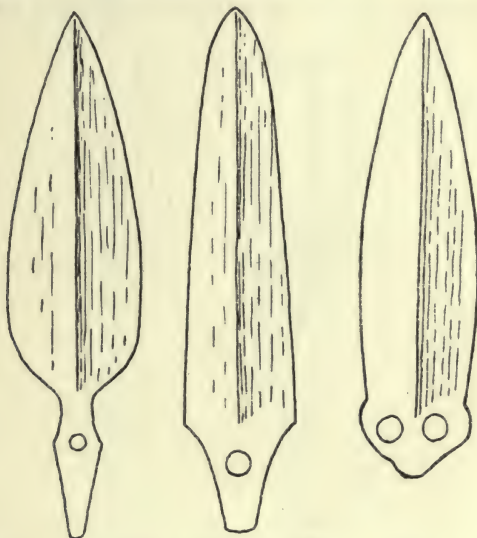


FIG. 171. Bronze daggers, *terremare*. Scale c. $\frac{1}{2}$.

shaped (Pl. IV, fig. 15), or else flat with raised edges. The type with a broader base and a pair of rivets is perhaps related to the older form with round heel, though the blade itself is usually leaf-shaped.

The triangular dagger with broad base, which we have ^{Type (c)}
already seen in the lake-dwellings, was also in use by the ^{triangular.}
terramara people. The handle is often in one piece with the blade, which is usually flat and incised with a triangular pattern similar to that shown (fig. 172). The form is common in Central and even Northern Europe. A hoard of daggers of this type was found at Castione Marchesi ¹ and another at Ripatransone.

¹ *B. P.*, ii, p. 44.

C.Swords.
Type 1. a.
terramara
sword.

Modified
type at
Pove-
gliano.

The swords of the *terremare* are not numerous, and belong to a very few types. The typical *terramara*-sword is a rather broad type with a round heel with rivets and a short spike-shaped tang. The section of this sword may vary. In the inhumation graves at Povegliano, which are contemporary with the *terremare*, though unconnected with them, we find this type with a distinct rib down the centre (fig. 173). This Povegliano sword—there is also a second example, broken—is the nearest approach we have in Italy

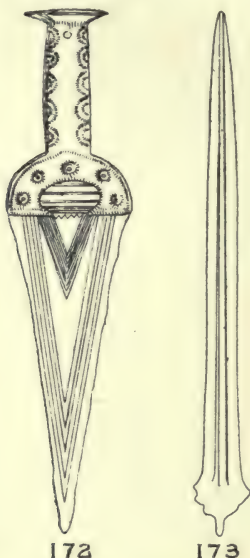


FIG. 172. Bronze-hilted triangular dagger, Castione. Scale $\frac{2}{3}$. (After Mariotti, *Bull. Pal.*)

FIG. 173. Ribbed sword of bronze, Povegliano. Scale $\frac{1}{2}$.

to the strong-ribbed Aegaeon rapier,¹ but it is much heavier, and was probably a cutting weapon.

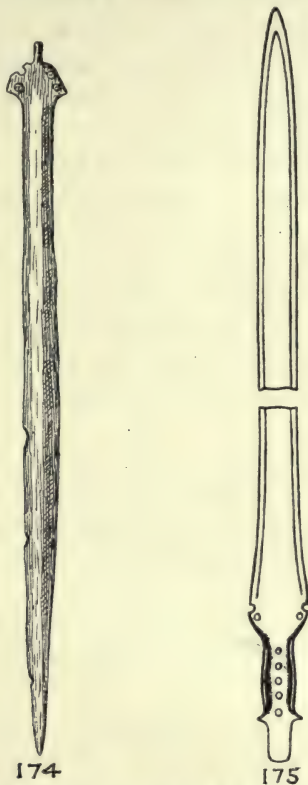
Examples
of *terra-*
mara
sword.

Three *terremare* have given examples of this short-tanged sword, viz. Castiglione di Marano, Castione dei Marchesi, and Redù (a damaged and uncertain specimen). In these examples the rib is very broad, almost covering the blade,

¹ Some of the Sicilian swords are much nearer to the Aegaeon type (see Chapter XVII). The Museo Preistorico at Rome possesses examples of long rapier swords said to have come from a *nuraghe* near Sassari in Sardinia.

and passing into the edge nearly imperceptibly. The end is pointed, while the edges are convex, curving in slightly just below the hilt (fig. 174).

Another shorter sword from Castione appears to have a round heel but no tang, while a damaged example from ^{Type 1.b.} _{short sword.}



174

175

FIG. 174. Short-tanged sword, *terramara* type. Scale c. $\frac{1}{4}$.

FIG. 175. Bronze sword with flanged hilt, Fucino. Scale $\frac{1}{8}$. (After Pigorini, *Not. Scav.*)

Bigarello, in the province of Mantua, resembles the usual type, except that the rib is slightly more marked, so that the section is rhomboid. All these swords differ entirely from the Mycenaean, Cretan and Sicilian types, and probably have their origin somewhere in Central Europe, though it does not for a moment follow that our examples are actually imported.

Type 2.
Bronze-
hilted
sword.

A completely different type of sword is that in which the tang is long and flat, with its edges raised, and rivet-holes down the centre (fig. 175). The handle was formed by riveting plates of bone or wood on to both sides of this tang. In some cases the tang has a slight prolongation on to which the pommel was fitted. I do not know any example of this from *terremare*, but it occurs at Montegiorgio, at Ficulle in Umbria, at Aquila, and near Lake Fucino, where there are several examples. A similar sword with hilt of a slightly modified form also occurs at Povegliano.¹ This type of weapon (Naue's Type II) has a wide distribution in Europe. Its origin is uncertain, for the examples from the Cyclopiian house at Mycenae and from Mulianà in Crete do not by any means prove it to be Aegaeian. J. L. Myres, to whom I am indebted for kind information on this point, thinks that this type was possibly of South Danubian origin and intruded into Italy about the period of the break-up of Mycenaean commerce in the Aegaeian, or perhaps a little earlier.

Modified
type at
Pove-
gliano.

Type 3.
Cascina
Ranza
sword.

Another type of sword is seen in the short examples of Cascina Ranza. The hilt is of bronze and the blade is concavo-convex on both edges (fig. 169). This is thought by Montelius to be a development by lengthening of the triangular broad dagger, the incised ornament of which it certainly preserves. It is a common form in Central Europe and Scandinavia. In Italy it is probably not very far from its original home.

D.
Knives.

Several of the objects previously described as daggers equally well deserve the name of knives, especially the blunt-ended examples of Lake Garda. As knives we may certainly class the concavo-convex implements with only one cutting-edge which appear probably in the later strata only of the *terremare* (cf. Pl. V, fig. 1).

E. Ra-
zors.

The razor is always trapezoid or rectangular in form, usually divided up the centre and with two cutting-edges (Pl. IV, fig. 18).

F. Sickles.

The sickle is a familiar implement in the *terremare*. It is almost invariably of the same form and seems to be an

¹ B. P., ix, Tav. III, fig. 15.

Italian specialization of the type (fig. 176). At Toscanella, in a bronze age hut-village, was found a copper sickle of much more primitive type, while other forms occurred in

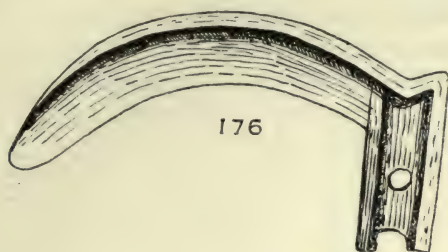


FIG. 176. Bronze sickle. Scale c. $\frac{1}{3}$.

FIG. 177. Bronze arrowhead with flat tang. Scale c. $\frac{1}{4}$.

FIGS. 178 and 179. Bronze spearheads, *terremare*. Scale $\frac{1}{2}$.

the hoard of Manduria near Taranto,¹ at Gardone near Brescia,² and at Limone near Livorno.

¹ *B. P.*, xxix, Tav. VIII, figs. 1, 3, 4, 5.

² Now in the museum at Brescia.

- G. Arrow-heads. Arrowheads have either a simple tang (fig. 177) or a small socket to help in firm hafting. Spearheads vary very little. The conical socket reaches as far as the point, and the wings are convex and occupy about two-thirds of the socket length, sometimes rather more (figs. 178, 179).
- H. Spear-heads.
- I. Chisels. Chisels have quite a modern appearance (fig. 180). The stem is round or square, and the tang is sometimes set in

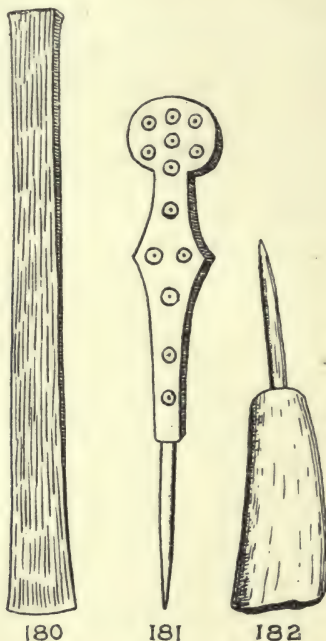


FIG. 180. Bronze chisel. Scale c. $\frac{1}{2}$.

FIGS. 181 and 182. Bronze awls set in bone handles. Scale c. $\frac{1}{2}$.

- J. Borers. a bone or horn handle. Small bronze borers are also frequently set in ornamented bone or horn handles (figs. 181, 182). Needles are of modern shape, though rather more coarse and often with the eye further from the end.
- K. Needles.
- L. Pins. Bronze pins take most varying forms. The figures (figs. 183 to 185) will save tedious description. The two-spiral pin is interesting as being a Cycladic form found at Syros.¹ Several of the *terramara* types had heads of bone or stag's-

¹ 'Eφ. 'Aρχ., 1899, Pl. X, fig. 15.

horn, taking the form of a truncated cone or a wheel (Pl. V, figs. 11, 12). These wheels are also found in bronze.

Fibulae only appear in the latest strata of the *terremare* M. Fibulae (fig. 186). They are of violin-bow form, and the catch-plate is in some cases quite undeveloped, being represented by a turning-up of the wire. The bow itself is slightly ornamented or flattened into leaf-shape. An example from Garda has a knob near each end and the space between

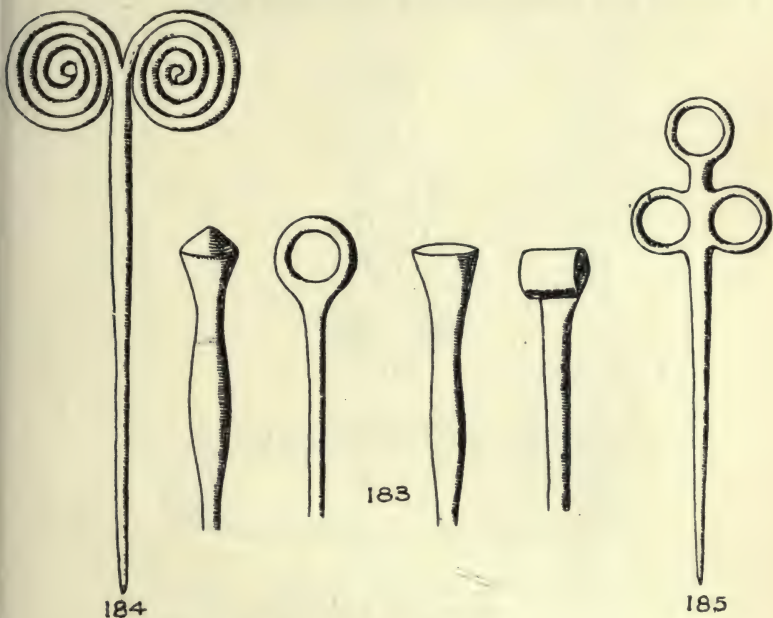


FIG. 183. Bronze pins. Scale c. $\frac{3}{4}$.
 FIG. 184. Bronze two-spiral pin. Scale c. $\frac{1}{2}$.
 FIG. 185. Bronze pin. Scale $\frac{3}{4}$.

is covered with simple incised ornament. Other examples have a bow of twisted wire. All these fibulae are lightly made and comparatively small. In an example from Ser-virola we find the catch-plate formed by twisting up the wire into a spiral disc. The arched-bow type does not occur.

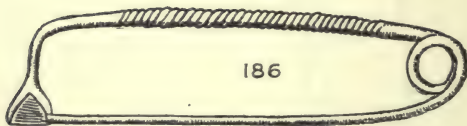
Pendants of the form given in fig. 187 are not uncommon in the *terramara*, while in the lake-dwellings of Garda they are frequent.

- O. Combs &c. Combs are occasionally of bronze, though the material used is generally bone (fig. 188). The *terramara* of Castellaro yielded the remains of a small pair of bronze tweezers.
- P. Bosses. Castione gave examples of objects which look like shield bosses, but which may have formed an ornamental part of a horse's trappings.

Objects of bone and horn. Instruments of bone and horn were largely used in the *terremare* and present several interesting forms. Of the old



187



186

FIG. 186. Violin-bow fibula, Peschiera. Scale c. $\frac{1}{4}$.
 FIG. 187. Bronze pendant, Lake Garda. Scale c. $\frac{1}{2}$.

- A. Borers and daggers. neolithic type are the borers and polishers of bone (fig. 189, Pl. V, figs. 4, 5, 6, and fig. 190) and the daggers made from the cubital bone of the ox. A frequent implement is the hammer of stag's-horn (Pl. V, fig. 7), while the *terramara* of Casinalbo yielded a complete axe of the same material. These axes cannot have been used for heavy work and were doubtless mattocks for breaking up the soil.
- B. Hammers and axes.
- C. Objects of stag's-horn. Tynes of stag's-horn are sometimes sawn off to be used as daggers, or perhaps large borers, while large branching masses of this material, with a square hole bored for a handle can only have served as rakes or harrows. Knives of bone

are not uncommon, and needles and net-menders are frequent. D. Bone knives.

The use of bone and horn as handles to bronze implements has been noted. The types fig. 191 are very usual and the ornament of incised concentric circles almost invariably appears upon them. E. Handles.

The rarity of arrowheads of stone or metal accounts for the frequency of those of bone. They are usually without heads. F. Arrowheads.

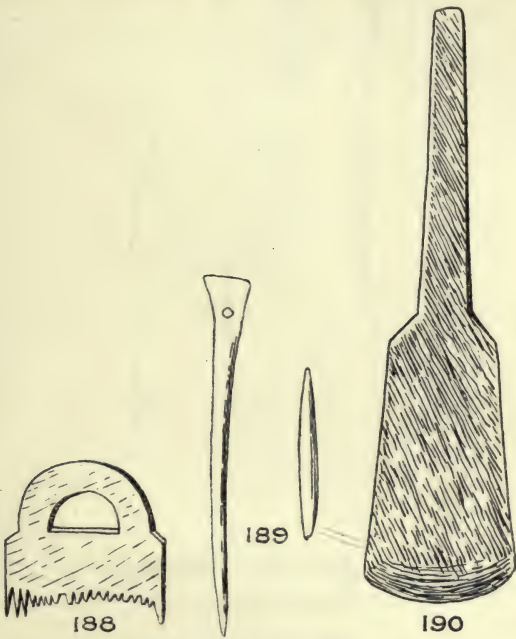


FIG. 188. Comb of bone. Scale $\frac{2}{3}$.
FIG. 189. Bone needles. Scale c. $\frac{1}{2}$.
FIG. 190. Polisher of bone. Scale c. $\frac{2}{3}$.

barbs, conical or pyramidal with a long tang, but some have two or even four barbs (fig. 191).

The curious objects of horn of type Pl. V, fig. 8 are extremely common, and are beyond all doubt bits for driving the horse. They vary considerably in shape and ornamentation. G. Bits.

We have already mentioned the pin-heads, usually truncated-conical or wheel-shaped. Combs are very frequent, H. Vari-ous ornaments.

and the simple type is shown in fig. 188. At Montale was found a rather elaborate bone fish-hook, while at Castione and elsewhere ornamental pins were made of the same material.¹

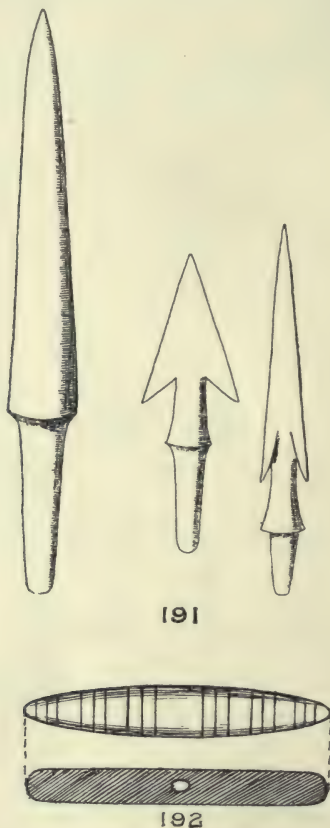


FIG. 191. Bone arrowheads. Scale c. $\frac{1}{4}$.
FIG. 192. Bone object of unknown use. Scale $\frac{4}{5}$

Objects similar to fig. 192 are not uncommon and may have served an ornamental purpose, perhaps as part of the horse's trappings. This last was probably also the destination of an ornamented concavo-convex disc of bone found at Castione Marchesi.

¹ Bone pins are, however, rare and we cannot say whether they took the same forms as those of bronze.

The peculiar conditions of the soil which covered the *terramara* of Castione have preserved for us enough objects of wood to give some idea how important a part this material played in the everyday life of the *terremare*.¹ Several large pieces of wood, too light to have been actual piles, are thought by Ströbel to have been parts of a railing, perhaps of the stockade which crowned the rampart. Wood appears

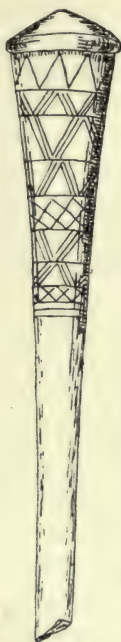


FIG. 193. Stick or sceptre of wood. Scale $\frac{1}{2}$.

in many cases to have taken the place of bone or horn. Thus we have a borer of wood, a bronze awl set in a wooden handle of the shape usual in bone, and a wooden polisher. It is interesting to note that wood was even used for making spoons or ladles and drinking-cups or basins. Among the larger objects were a large hook, a club and a handle for a bronze celt.

Pegs and wedges, still showing hammer-marks, are also represented.

¹ See *B. P.*, iv, pp. 22, 46, Tav. I and II.

Orna-
mented
wooden
stuffs.

The strangest objects of all are ornamented sticks (fig. 193). The largest is 40 cm. long and is covered with incised ornament. It is generally supposed that this served as a sceptre, or a rod of command or of ritual.

Wooden
wheel.

Among the most interesting objects of all were the remains of a wheel. This was of solid wood, the several parts being united by cross pieces and a simple hole pierced for the passage of the axle.

Pottery.

Terramara pottery falls naturally into two types, coarse and fine. The former was used for ordinary household vases, the latter for smaller vases intended for less rough usage.¹ Both kinds of vases are hand-made. The fine ware is made of a good grey clay and the dull grey or grey-black surface is fairly well polished, despite which fact it is inclined to have a lumpy appearance. In general aspect it rather resembles *bucchero*.

Forms of
vases.

The forms of the larger and therefore rougher vases are known to us mainly from the cemeteries, where they were used as ossuaries, the custom of making special vases for the purpose not having as yet arisen. All these vases have a flat base. In shape they are ovoid or hemispherical, or truncated-conical, or globular, or biconical, and in many cases there is no neck distinct from the body. These ossuaries are in rare cases of finer make (see Pl. IV, figs. 1, 3, 10, 11).

a. Large
jars.

b. Basins
and
dishes.

Of the smaller and finer vases, found in the actual pile-dwellings, the majority are cups or basins. The latter may be hemispherical with or without an incurving neck, or inverted-conical or ovoid. The flatter examples may be called dishes, while the taller more resemble jars. These vases have no true handle. Occasionally there is a pierced knob or tubular handle to take a string.

c. Cups
and jugs.

The cups are often similar to these, but as a rule rather smaller, and provided with a handle, simple or elaborate. Some, however, are so large as to deserve the name of jugs, though they have only rarely a neck. Many of the smaller cups have clear-cut, almost metallic, outlines. Some were,

¹ Not all the small vases are of fine ware, but the majority certainly are.

from their form, evidently ladles (Pl. IV, figs. 8 and 9). It is to this group of vases that ornamentation and elaborate handles are most usually applied.

A frequent vase in the *terremare* is the biconical jar with a slight out-turned neck (Pl. IV, fig. 10). This is somewhat similar to the Villanova ossuary of the early iron age. Its use in the *terremare* was not wholly sepulchral.

Among rarer vases are the shovel-vase (Pl. IV, fig. 7), of which Gorzano gave examples, the spoons and the *fischietto*. This last is a small conical vase with a hole at the apex (fig. 194). It resembles the Cretan filler¹ but has

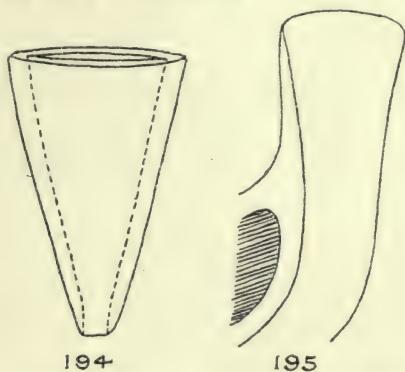


FIG. 194. Section of small conical vase, *fischietto*. Scale $\frac{1}{2}$.

FIG. 195. Axe-shaped handle, *ansa ad ascia*. Scale c. $\frac{1}{2}$.

no handle and is very small, seldom more than 10 cm. in length. These objects are considered by Pigorini to be whistles. Colanders or strainers consisting of low cylindrical or inverted-conical vases pierced with many holes are occasionally found. At Castelfranco dell' Emilia a large vase was shaped exactly like a bucket and decorated with strips of clay running round the surface in a parallel horizontal series. In several *terremare*, including Gorzano, we find an ovoid cup with a spout and a handle diametrically opposite to it. A basin set on a high trumpet-foot is not uncommon. An example from Montale has a hole through the foot.

Besides these must be noticed a very large number of miniature vases, much too small to be of actual use, though

¹ B.S.A., ix, p. 311, fig. 9.

almost invariably reproducing in a clumsy style the shapes of the ordinary ware (Pl. IV, fig. 2). These vases are not peculiar to the *terremare*, for they occur also among the western lake-dwellings at Polada. At Polada, too, is found the spoon of earthenware, and at Polada and Cataragna the *fischietto*. It is impossible to suppose that all the vases of this miniature type were made as playthings for children, and it seems probable that they served some ritual purpose, being used in some kind of religious banquet, perhaps set before the gods themselves.

Handles.

One of the chief features of *terramara* pottery is the remarkable variety and development of the handles. Often they are of quite simple form, made by curling a ribbon or stick of clay into a ring, and attaching it to the vase vertically or horizontally. Occasionally we find a pierced knob or a narrow tubular handle. A simple handle rising high above the rim is not uncommon. But the ingenuity of the potter was more generally shown in elaborating the handles of the finer vases, especially the cups and ladles. The lower part of the handle was a simple vertical ring; but above this it was prolonged and developed into a pair of horns or a crescent, the *ansa lunata* or *cornuta* (fig. 196). It is this handle that forms one of the chief distinguishing marks of the *terramara* people in Italy, and it has a very important significance, as we shall see later (Chapter XVIII). This upper part of the handle, without ever losing its essential form, was capable of infinite variety, and the figures will give some idea of the way in which it was treated. Many have wished to give this handle a ritual significance. This would certainly be very difficult to prove, and the application of the form to such hundreds of common vases is rather against such an interpretation. We may rather see in it an example of the tendency in the lake-dwellers of Italy, of Hungary and of Bosnia, to elaborate the upper part of the vase handle, even in preference to adorning the vase itself. The *terremare* give rare examples of another handle of the same group, viz. the axe-shaped handle (fig. 195).

a. *Ansa lunata*.
b. Axe-shaped handle.

Orna-
ment.

The ornament can almost be divided into two classes according as it is applied to rough or fine ware. Rough

vases are occasionally completely covered with small knobs of clay, or small circular depressions made with a rounded stick-end. The use of a horizontal row of knobs, some distance apart, around the vase below the rim is not uncommon (Pl. IV, fig. 12). Frequent, too, is the application of rounded strips of clay in relief. Sometimes a single strip encircles the vase below the rim. At others, concentric semicircles are laid on the shoulder or body. Vertical

a. Clay knobs and pits.

b. Relief strips.

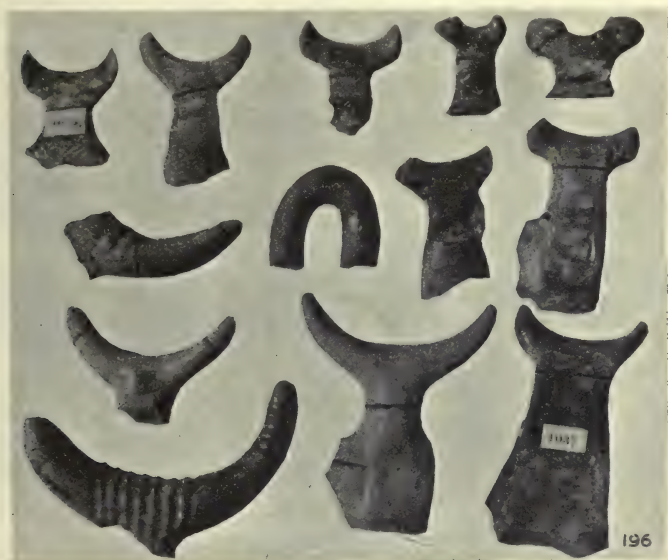


FIG. 196. Horned or crescent handles, *terremare*.

strips are less common, though they occur at Castione, and three short parallel vertical strips below the rim are occasionally seen. The strips are rarely pitted.

On the finer vases we have three types of ornament: shallow incision, which is rare; furrowed designs (Pl. IV, fig. 6), which are usual; and large knob-shaped projections, seemingly made in modelling the vase, and not attached afterwards (Pl. IV, fig. 10). Incision is seen at Castione, where the designs are simple dog-tooth patterns, or groups of short parallel lines. By using a thicker implement to

c. Incision and furrow.

work with the potter could pass naturally from incision to furrowing (*canalatura*) (Pl. IV, fig. 4). This is especially frequent on the bottom, inside or out, of shallow open cups, where it is helped out by circular impressions made with the stick-end. The pattern is simple, and is arranged radially round a central impression (Pl. IV, fig. 5). Furrowing is also common on handles and on the shoulder of the biconical vases, where concentric semicircles are a favourite pattern; these are often arranged round and even on a large projecting knob, as in Pl. IV, fig. 10, where, however, the furrows approach incision. It is curious that in miniature

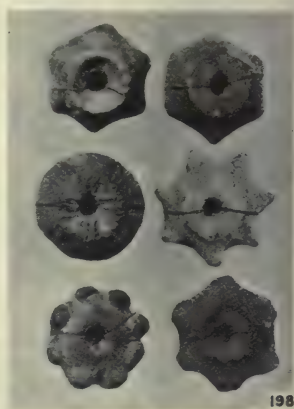
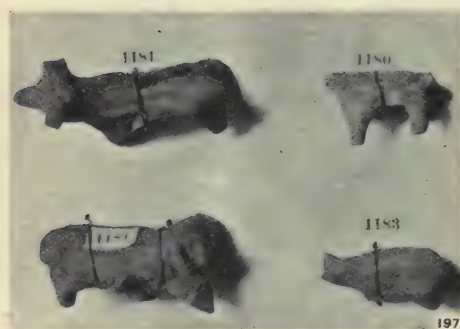


FIG. 197. Clay figurines of animals, *terremare*. Scale c. $\frac{1}{3}$.

FIG. 198. Terracotta spindle-whorls, *terremare*. Scale c. $\frac{1}{3}$.

copies of such knobbed vases the knobs are represented so large as to spoil the whole proportion of the vase.

Other objects of earthenware. Spindle-whorls.

Among the objects of earthenware must be included spindle-whorls, net-sinkers and figurines.

Spindle-whorls are innumerable (figs. 198, 199). They take almost every conceivable form, and are in most cases ornamented with incision or furrow. They are generally of fine clay, with a good but unpolished surface.

Net-sinkers(?).

The objects represented in fig. 200 are of rough yellow clay, and are sometimes classed as net-sinkers, as they seem too heavy for loom-weights. It is, however, doubtful

whether the *terramara* folk fished at all, as they lived far from the lakes, and marshes offer little opportunity for the use of heavy nets.

Finally we have to mention the small figurines (fig. 197). Figurines. At Castellazzo these represented both men and animals, but elsewhere animals only are found. They are not uncommon. The animal is hard to identify, but in some cases it seems to be perhaps a pig. It should be noticed that these are the first plastic representations which occur in Italy, if we except a few neolithic figurines. They are of very rough make, and the clay is left unpolished.

Amber is occasionally found in the *terremare*. At Castione Amber. we find small beads, spherical or discoid, while at Castione, Montale and Casinalbo we have much larger discs, usually

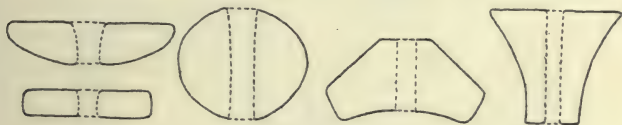


FIG. 199. Sections of earthenware spindle-whorls. Scale c. $\frac{1}{2}$.

thinned-off towards the circumference. These last are sometimes taken to be spindle-whorls, but they were much more probably mere ornaments. From the comparative rarity of amber in the *terremare* we may infer that they lay just off the edge of one of the great amber routes from the Baltic to the Aegæan, a fact which is borne out by their position. In fact they succeeded in just tapping the trade as it passed the head of the Adriatic.

In the *terramara* of Montale were found two beads of Glass-
dull glass-paste. One is conical, and light blue in colour, ^{paste.} the other is globular and white. Presumably these were found in the true relic stratum. They are certainly not a native product, and must have been imported. Possibly they found their way up from the Aegæan via the Balkans.

The examination of the material which we have just

Culture
of the
terramara
folk.

carried out, together with a consideration of the animal and vegetable remains found in the *terremare*, enables us to draw a fairly complete picture of the people who inhabited these settlements.

1. Agri-
culture.

It was in agriculture and metallurgy that they chiefly surpassed their neolithic predecessors in Italy. Wild fruits still served as food, such as filberts, acorns, wild apples, pears and cherries. But besides these we find remains of flax, beans, two types of wheat (*Triticum vulgare hibernum* and *turbidum*), and the vine (*Vitis vinifera* L.). This last, however, is not the true vine of cultivation, and we have no evidence that these people used it to produce wine. The grain was pounded with hand-mills of stone of the type of fig. 201. The flax was probably used, as in Switzerland,

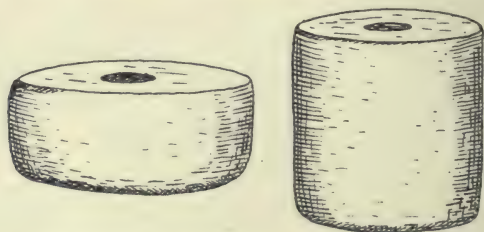


FIG. 200. Net-sinkers or loom-weights of earthenware. Scale c. $\frac{1}{6}$.

to produce clothing-stuffs. The abundance of the spindle-whorls proves that it was at least made into thread.

2. Metal-
lurgy.

The metallic industry of the *terramara* folk consisted in the casting of bronze in stone and perhaps clay moulds. The art of hammering out bronze plate in order to make bronze vases was unknown to them, and appears in Italy only when the civilization of the *terremare* has passed into that of Villanova. Moulds for casting bronze objects are not rare among the *terremare*. They are generally of sandstone or limestone (Pl. V, 13). We have also crucibles of cylindrical form, in which the metal was fused.

3. Hunt-
ing.

But while the *terramara* folk practised agriculture and worked bronze, they had not ceased to be hunters. They still relied on the chase to provide for many of the needs of everyday life. They pursued the stag, deer, wild boar

and bear. These animals furnished them with horn and bone for making implements, with skins to clothe themselves, and with flesh to eat. Many animals, however, they had domesticated, including the ox, sheep, goat, pig, cat, fowl and duck. The dog helped to watch the cattle, and the horse and perhaps the ass were driven in the modern fashion, with reins and bits. It is uncertain whether the *terramara* folk were fishers or not. In the *terremare* a few remains of fish have occurred, and at Montale a hook of bronze. The harpoon of Lake Garda may be much later, and the so-called net-sinkers referred to above may be

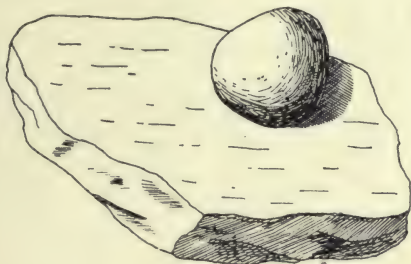


FIG. 201. Stones used for grinding grain. Scale c. $\frac{1}{6}$.

loom-weights. The question must be therefore regarded as still unsettled.¹

Our task of delineating the life of the inhabitants of the *terremare* is now complete, and it only remains to ask whether we can throw any light on their methods of burial. In other words, have we any graves or cemeteries which can with absolute certainty be attributed to these people?

Methods
of burial.
A. Ceme-
teries
actually
connected

¹ Ströbel's complete list of the fauna of the *terremare* is as follows:—*Erinaceus europaeus* L., *Ursus Arctos*, *Vulpes vulgaris* Briss., *Canis familiaris* (with varieties *Spaletti* Ströb., *palustris* Rüt., *matris optimae*), *Lupus vulgaris*, *Meles vulgaris*, *Martes foina* L., *Felis catus*, *Sus scrofa* (ferus) L., *Sus palustris* Rüt., *Asinus africanus* Sans., *Equus caballus*, *Capreolus vulgaris*, *Cervus elaphus*, *Dama platyceros*, *Cervus tarandus*, *Hircus aegagrus* L., *Hircus palustris*, *Ovis aries* L., *O. palustris* Rüt., *O. capricornus*, *O. musimonis*, *Bos primigenius*, *B. domesticus*, *B. brachyceros*, *Lepus timidus*, *Mus silvaticus*, *Histrix cristata* L., *Castor fiber*, *Frugilegus segetum*, *Callus domesticus* L., *Ciconia alba*, *Ardea cinerea*, *Anser segetum*, *Anas boschas* L., *Emys europaea*, *Buxo*, *Esox lucius* L.

with
known
terremare.
1. Castel-
lazzo.

No one will venture to doubt the connexion with the *terramara* of Castellazzo of the two cemeteries found just without its moat, and already shortly referred to. One lay south-south-east of the settlement, and the other immediately outside the western moat.¹ The former 90 metres square, contained a number of rough ossuaries filled with burnt bones. These vases, however, lay not upon the soil but on a platform supported by piles and surrounded by a moat 10 metres wide. The pile-structure was reached by a wooden bridge across the west side of the moat. This cemetery was in fact a '*terramara* of the dead', where the departed were laid to rest in a dwelling similar to that in which they had lived.

'*Terra-*
mara of the
dead.'

The west cemetery was not fully explored, but there was no sign of the pile-structure noticed in the other.

The burial
rite was
cremation.

This evidence enables us to affirm with certainty that the people of Castellazzo cremated their dead and buried the burnt remains in ossuaries, sometimes depositing these on a pile-structure similar in form to the *terramara* itself.

Signifi-
cance of the
Castellazzo
cemeteries.

The importance of these facts cannot be overrated. Since the *terramara* folk cremated it is unlikely that they were the same people as the *Liguri* of neolithic times.² Further, the use of a *terramara* of the dead suggests that a *terramara* was a survival of some form of lake-dwelling, and not a mere hut-village raised on piles to avoid floods. The existence at Castellazzo of a second cemetery, not built on piles, proves that the pile-structure of the first had a merely ritual significance. It is to be wished that a comparative examination of the two cemeteries had been carried out, in order to determine whether the same class of people were buried in both.

Need of
further
evidence.

The excavations at Castellazzo afford excellent evidence as to the form of the *terramara* cemeteries, but leave many details to be filled up. Fortunately, these are in a great measure supplied by two other cemeteries, each of which can be definitely connected with a *terramara*. These

¹ *Rend. Acc. Linc.*, November 26, 1893.

² Both this point and the next will be more fully discussed in Chapter XVIII.

cemeteries were found at Monte Lonato and Casinalbo respectively.

In examining some pre-Roman traces at Monte Lonato 2. Monte Lonato. (Map II, 89), province of Brescia, a number of urn-burials were found only slightly below the level of the soil.¹ Each tomb consisted of a mound of stones arranged in a circle, though no traces of any covering remained. In each lay various vases containing burnt human remains; each vase was closed with the broken bottom of a larger vase, and the fragment was in its turn surmounted by a stone. In and around the tombs were found other fragments of vases. The urns contained nothing but the burnt bones and a few insignificant fragments of bronze. The urns are of forms common in the *terremare*. We notice that the ritual shape of urn so common in the sepulchres of the bronze age in the West of North Italy is at Lonato not in general use. We have indeed vases of double-cone shape, but the upper cone constitutes the neck rather than a part of the body, and the high rim essential in the ossuaries of the Monza group is here quite lacking. In fact, at Lonato the vases used for the burial of the dead are still, as at Copezzato (see below), of shapes used in ordinary life.

Shape of
the urns.

When we ask to what settlement the cemetery belonged, we have not far to seek. On the hill at the foot of which the graves lie were found traces of a settlement, the exact nature of which has not been ascertained, but which yielded objects typical of the *terramara* civilization.

Even if this geographical evidence should be thought indecisive, we can still prove the connexion of the cemetery with the *terramara* people, for all the pottery found in it is of manifest *terramara* type. All the forms can be paralleled; the ornament, consisting of shallow furrows encircling the vase in its upper part, or of small strips of clay in relief, shaped like a crescent or a wavy line, is typical of the *terramara* period; finally, all doubt is removed by the existence of the horned handle.

The only bronze of any account is a pin of typical *terramara* form.

Results of
the excava-
tion at
Monte
Lonato.

Besides confirming the use of cremation this cemetery demonstrated three points: firstly, that the *terramara* graves were sometimes marked by circles of stones; secondly, that vases of ordinary everyday form might be used as ossuaries; and thirdly, that very little funeral furniture was buried with the ashes.

3. Casin-
albo.

New features are revealed by the necropolis of Casinalbo (Map II, 132), which lies 200 metres south-west of the *terramara* of Casinalbo. The urns, found at a depth of 0.50 to 0.80 metre, were packed so closely together that in a space of 1 square metre thirty of them were counted. They were arranged in two layers, one above the other, and it was noticed that the bases of the ossuaries in the upper layer had often penetrated the tops of those in the lower. All the ossuaries were deposited in the bare earth, with no other protection than an inverted basin or a flat or round stone over the mouth. They contained nothing except burnt bones, and in rare cases an accessory vase.

Two layers
of urns.

Are some of
the burials
later than
the rest?

The pottery corresponds perfectly to that of the *terremare* and the cemeteries of Monte Lonato, Bovolone &c., with the exception of one vase. This is a cup with black polished surface similar to that of some of the *terramara* vases; it is ornamented with simple geometrical designs, and also with studs or buttons of bronze. The use of bronze studs on pottery is well known in the iron age burials of the Second Period at Este,¹ but it has not been found among the deposits of the *terremare*.² In fact this vase, even if not of the iron age, can only be attributed to the very latest period of the bronze age. Now several of the ossuaries at Casinalbo are manifestly later than those usually found in *terramara* cemeteries, verging as they do towards the ritual Villanova form of the iron age. Had the excavator informed us whether all the later vases came from the upper stratum of burials we should have been able to determine whether the two strata represented different periods, a point of considerable importance.

B. Ceme-
teries be-
longing to

The discovery of these three cemeteries of Castellazzo, Monte Lonato and Casinalbo, each of which is actually

¹ *Mon. Ant.*, vii, p. 122.

² *l. c.*, pp. 115-16.

connected with a *terramara*, enables us to assign to the *terremare* same people other necropoleis of the same type, even though the *terremare* to which they belong are as yet unknown. as yet undiscovered.

Such are the cemeteries of Bovolone, Copezzato and Crespellano, in each of which the pottery found is all of *terramara* type. Each of them gives us some new point of detail, while in general confirming our previous results.

At Bovolone (Map II, 109), province of Verona, vases 1. Bovo- containing burnt human bones were found in 1876 by road-makers, and at the end of the year a systematic excavation was carried out.¹ The first ossuaries found were at a depth of 1.50 metres ; those found later were nearer the surface, about 0.90 metre from the present level, arranged apparently in two parallel rows. Some stood among remains of the pyre, which formed a compact mass, sometimes sticking to the vase itself. The urns were usually covered with an inverted basin, and sometimes accompanied by accessory vases. They were not protected in any way whatsoever, but lay in the bare earth, as at Casinalbo. They contained nothing but the burnt remains, nor were objects found in the earth around them, with the exception of a few sherds, a piercer made of the horn of the roebuck, and bones and teeth of ox, horse, pig, stag, roebuck and sheep. Among the sherds are, however, mentioned two handles of finer clay than the ossuaries, and of the horned or crescent shape common in the *terremare*. Rarity of burial furniture.

Here we find that the remains of the funeral pyre were sometimes interred with the ossuary containing the calcined bones, and we have confirmatory evidence as to the rarity of funeral furniture.

We have noticed the arrangement of the ossuaries in two 2. Cres- layers at Casinalbo. This feature reoccurs at Crespellano pellano. (Map II, 136), on the road from Bologna to Bazzano.² Here, as at Casinalbo, the urns were so tightly packed that in order to extract one whole it was often necessary to break its neighbours. They were covered each with an

¹ B. P., vi, p. 182 ; *Not. Scav.*, 1881, p. 129 ; *Bullettino dell' Istituto*, 1881, p. 3.

² Brizio, *Ep. Preist.*, lxxx-lxxxi.

inverted bowl, and this again by a rough stone. They contained merely calcined bones, and out of the whole number of ossuaries only four insignificant fragments of objects came to light.

The biconical ossuary.

Most of the vases belong, as at Monte Lonato, to the ordinary rough household series of *terramara* pottery. A few, however, are of the later biconical form (Pl. IV, fig. 10), and it is possible that this was even now becoming the stereotyped form for the ossuary.

3. Copezzato.

Though our conception of a *terramara* cemetery is now approaching completeness we may still gather a few points of importance from the necropolis of Copezzato, which is perhaps the earliest of the group (Map II, 113).

Distribution of interments.

The ground on which the cemetery lies now forms part of the bed of the river Taro in winter, and is only visible during the summer.¹ Owing to the nearness of the river it was impossible to ascertain the limits of the cemetery in all directions. Measuring from East to West, tombs were indeed found over a distance of 100 metres, but at the extremities they were only scattered, and the majority of the interments were contained in a comparatively small area towards the centre. The urns contained nothing whatever except burnt human remains, and in rare cases a few small vases.

Paucity of burial furniture.

The urns were placed so close to each other that, as elsewhere, in extracting one it was often impossible to avoid destroying its neighbours. In some cases a small urn was placed within a larger, each containing a separate mass of burnt bones. Owing to the damage caused to the deposit by the river, it was for the most part impossible to say whether the urns were originally provided with any sort of covering. It is noticeable that in some cases an inverted basin lies *within* the urn, affording a certain amount of protection to the bones beneath it. Among the bones in one urn was found a burnt fragment of a stag's-horn wheel, such as are commonly found in the *terremare* used as pin-heads, and in another urn a whetstone damaged by fire. The pottery is of the usual *terramara* forms and

¹ *B. P.*, xvi, p. 21; xvii, p. 140.

technique, and is undoubtedly earlier than that of the other cemeteries of the group. The urns nearly all consist of ordinary vases such as were used in everyday life (Pl. IV, fig. 1), and the biconical vase, which undoubtedly came to have a ritual significance, is rare (Pl. IV, fig. 3). In the central part of the cemetery only one layer of urns was found. Towards the western extremity of the cemetery, however, three cases occurred in which an urn was placed vertically over another, the lower being covered with an inverted basin.

It is unfortunate that more accurate observations were not taken at this excavation. We have seen that, except at the centre of the cemetery, the burials were few and scattered, but we have no evidence as to whether the outer burials differed in type or date from the more central. Thus the observation loses any value it may have had. The close packing, often in two layers, of *terramara* graves suggests that when a cemetery was to be formed a very limited space was set apart and probably consecrated. The limitation of the area is natural among a people who needed land for agricultural purposes. What happened when the area was filled is a question which careful excavation might have solved at Copezzato, but which, as it is, still remains unanswered.

We are thus able to form a very clear idea of the manner in which the *terramara* folk buried their dead. The body was cremated, and it may here be noticed that there is not a single inhumation cemetery of this date in the whole of the area occupied by the *terremare*.¹ The ossuaries in which the burnt remains were placed were at first ordinary vases used in everyday life, but later they tended to approximate to a fixed biconical type, which before the beginning of the iron age had become almost universal.

It was noticed at Bovolone, Copezzato and Crespellano

¹ In view of the incorrect notion (which for some curious reason has gained currency in England) that the *terramara* people inhumed their dead, I cannot insist too strongly on the universality of cremation among them. Professor Ridgeway's statement that 'inhumation was universally practised by the people of the Terramara culture' (*Who were the Romans?* p. 16) is a direct reversal of the facts.

Was each cemetery a limited consecrated burial area?

Chief features of the *terramara* burial rites.
a. Cremation.
b. Shape of ossuaries.

c. Only the larger fragments of burnt bone placed in the urns.

that the pieces of burnt human bone were rather large, and the urns contained nothing in the way of finer ash. This of course is easily explained, for, the body being cremated at an open fire, it would be impossible to gather from among the remains of the pyre any but the larger fragments of the bones.

d. Paucity of funeral furniture.

Still more important is the almost complete lack of objects intentionally deposited with the remains. Gozzadini mentions this point in connexion with Crespellano, and it is also noticeable at Lonato, Pietole Vecchio,¹ Bovolone, Casinalbo and Copezzato. An exception was, however, sometimes made in favour of accessory vases. These were probably always placed within the ossuary. This was certainly the case at Copezzato; at Bovolone the ossuaries were 'associated with' accessory vases; at Casinalbo the tombs consist of an urn 'usually accompanied by one or two bowls'. It is impossible to argue with certainty from the phrases used in the last two cases, whether the accessory vases were actually within the urns or not, and we must be satisfied to leave the question undecided.

e. Accessory vases.

f. Close packing of the urns.

We have already noticed the custom of placing the urns side by side and as close together as possible. At Crespellano, it is true, they were separated from one another by a thin slab of stone, and at Lonato they were surrounded each by a heap of stones, but in all other cases they stood in the bare earth, usually in actual contact with one another. Gozzadini, describing the double layer of urns at Crespellano, says that a section of the deposit gave one the impression of being in a 'potter's warehouse, where all his wares are piled'. This raises a curious question. Assuming that all the urns were not buried at one time, e.g. after a great battle, how does it come about that the urns could be placed in contact with one another? The answers suggested by Pigorini are two. Either the urns were not buried at all, but merely placed on the surface, or they were buried up to the neck. Pigorini himself inclines to the second hypothesis. It does indeed, seem that one of these explanations must be

g. Were the urns left above ground?

¹ This cemetery does not merit special description. See *B. P.*, vi, p. 192, note 15.

correct, for in no other way can we possibly explain how in several cases at Copezzato smaller ossuaries containing bones were deposited within the larger. If we suppose that at least the opening of the larger ossuary remained above ground, covered perhaps by a basin or stone, then it is easy to see how later burials could be introduced into the original urn. Later burials were also observed in some of the urns of Timmari, on the borders of Apulia, in a cemetery which is rather later than these of North Italy.

When it was desired to deposit a second layer of urns above the first, an artificial platform of earth would be heaped up just high enough to cover the latter, and the new urns laid upon the surface just formed.

If we accept either of Pigorini's hypotheses the question whether a rude tombstone existed above the urns practically vanishes. The urn, or at least its neck, formed its own tombstone. The stone which in some cases surmounted it served as a covering, rather than a mark. In any case, if any rigorous rule existed as to the marking of tombs, it seems curious that the urns should be packed together in a veritable mass, or placed above, or within one another in such a way as to preclude distinction.

h. Was there any mark above the grave?

CHAPTER XV

BRONZE AGE HUT-SETTLEMENTS AND CAVES OF NORTH ITALY

Bronze
age civili-
zation not
confined
to *terre-
mare*.

THE comparative brilliance of the civilization of the lake-dwellings and *terremare* is apt to blind our eyes to the not insignificant civilizations which flourished contemporaneously in North Italy. The ground occupied by the sites so far dealt with comprises only Piedmont, Lombardy, Western Emilia and a small corner of the Veneto. It therefore remains to treat of Liguria, the Veneto, Eastern Emilia, the Marche, Umbria, Tuscany and Latium, in order that our survey of the northern half of Italy may be complete.

We shall begin with Eastern Emilia.

I. THE BRONZE AGE IN EASTERN EMILIA.

Eastern
Emilia.

Hut-vil-
lages mis-
taken for
terremare.

1. Chiavi-
chetto.

On the eastern edge of the *terramara* country, or even within this country, were found some years ago a series of stations which were erroneously taken for *terremare*, but which in reality are groups of hut-foundations. The mistake was indeed very natural. The exact nature of a *terramara* was as yet not known. The posts which formed the walls of the huts might well be mistaken for piles, and much of the material found is identical with that of the *terremare*. Thus, even when Munro wrote in 1890, the station of Chiavichetto (Map II, 91) was believed to be a true *terramara*. More accurate research into the precise nature of the *terremare* has since disproved this.

To discover the real nature of these stations and to see how the error arose, we must shortly examine the most important of them, Monte Castellaccio, Fiastrì and Romei, and Demorta.

As early as 1873 a settlement was discovered on the

plateau of Monte Castellaccio ¹ and was described as a *terra-* 2. Castellaccio.
mara (Map II, 142). The station really consists of a number of hut-foundations. The so-called piles are merely the a. The huts.
upright posts which formed the framework of the walls. These posts were sunk about a metre into the soil and were from 8 to 20 cm. in diameter. Several fireplaces were found. They consist of clay hardened and baked by the fire. Very interesting is the discovery of several pits, b. Refuse pits.
circular or oval, 60 cm. deep. The circular pits vary in diameter from 65 cm. to 160 cm. The largest oval pits had a diameter of 3.60 metres. All the pits were filled with refuse consisting of charcoal, bones, sherds &c. Near a fireplace one of these pits was always to be found, except in two cases. The two fireplaces in question were the only two around which the refuse was allowed to accumulate. The hut-foundations were in two distinct layers. The earlier group had been destroyed and covered with earth; the later group was then built on the newly formed level.

Among the remains found in the excavations objects of bronze were very rare. They included, however, an axe with flanged sides, a sickle and three daggers, all of *terra-* c. Bronze objects.
mara type.

Of the pottery, some resembles that of the *terremare*, d. Pottery showing, for example, the *ansa lunata*. The rest is more primitive in type and included several neolithic forms of handle, including the *cilindro-retta*. Other objects found were saws, knives, arrowheads &c., of flint, perforated stone axes, implements of stag's-horn, spindle-whorls of terracotta, amber and stone beads, and shells pierced for hanging.

The most striking facts about this site are the absence of a pile-structure and the presence of bronzes and pottery of *terramara* type, together with pottery showing resemblance to that of the neolithic period.

Somewhat similar facts were noted at Fiastrì and Romei 3. Fiastrì and Romei
(Map II, 123-4). Chierici, writing in 1875,² referred to these settlements as *terremare*. In 1877,³ however, when the characteristics of a *terramara* were becoming better known,

¹ Munro, p. 205.

² B. P., i, p. 115.

³ B. P., iii, p. 108.

he was able to point out that neither station was a true *terramara*, though the material found in both was partly of *terramara* type. Apparently no actual hut-foundations were found, and the settlements would seem to have lain in the open.

4. De- An even more perplexing example occurred at Demorta.
morta.
a. The hut- consist of a stratum of dark earth containing the usual
village. mass of carbon, bones, pottery &c., and clear signs of
hearths.¹ Chierici, who excavated the deposit, was in doubt
as to its real nature. It produced remains showing very
close analogies to those of the *terremare*, and on this ground
Chierici finally decided to call it a *terramara*. But, in the
first place, it is very much smaller than a *terramara* should
be, covering only a third of a hectare, while a *terramara*
should cover at least 3 hectares. In the second place,
there was no sign whatsoever of piles.

These facts seem conclusive, and the settlement is now considered to be a hut-village.

b. Pottery. The most important remains consist of the pottery. All
the vases are hand-made and baked at an open fire. They
are of two kinds. The one is of purified clay, merely dried,
with a black surface smoothed with a flat stick-end. This
type includes better-shaped vases, and is more frequently
ornamented, than the other. The most common form is
a basin or open cup with a high handle, sometimes horned.
The ornament consists of rows of impressed dots or of
lines incised with a blunt point. These are arranged in
bands, triangles, rectangles, zigzags, or in patterns copied
from basket-work. The rougher vases are of coarser clay
but are sometimes well baked, perhaps by use over the
fire. They are ornamented with knob-like protuberances
or by strips of clay applied in relief.

Very typical of this settlement is a horned handle in
which the horns are cut off short, called by Chierici *ansa
a mazzuolo*. This type has already been mentioned as
occurring at Lagazzi (p. 298).

c. Flints. The flints are mostly knives and saws. The latter are

¹ *B. P.*, iii, p. 97; xxix, p. 77.

rectangular, carefully worked in small flakes, and easily recognized by the polish which the used edge has acquired. Two arrowheads with concave base, and a fragment of a lancehead or dagger, complete the list. Among miscellaneous objects are four spindle-whorls, a disc of clay, the lower stone of a hand-mill, and five upper stones, two of which are reduced to discoid form by minute flaking; all these objects are typical of the *terremare*. As to the date of the settlement there can be no doubt. The pottery belongs to the *terramara* period. The flints point to the same period, for two arrowheads with concave base and four flint saws were found at Fiastri, together with *terramara* bronzes and a horned handle.

These discoveries made it clear that on the eastern limit of the *terramara* country, and even within it, flourished a civilization in many respects akin to that of the *terremare*, yet in others differing from it entirely. In order to ascertain the true nature of this civilization, and the people to whom it was due, it was necessary to excavate more sites in the same district, i. e. in Eastern Emilia. It was to this work that the late Professor Brizio devoted so much of his time and interest. Much of his work is unfortunately still unpublished, but the fruit of his excavations is to be seen in the Bologna museum.

The sites at which this type of civilization has been studied lie at the foot of the Apennines close to the line of the modern railway (the ancient Via Emilii Lepidi), and extend roughly from Modena to Forlì.

Bologna itself seems to have been one of the chief centres. (Map II, 135), for here we have several sites quite close to the city walls. For instance, at Castel dei Britti¹ was found a deposit consisting of two distinct strata, the uppermost being 3 metres in thickness, and containing remains of hearths. The pottery of the lower stratum was quite rough, while that of the upper, though badly baked, was sometimes polished. The ornament included relief strips of clay, protuberances and crenate rims, while among the handles were *ansa lunata* and *cilindro-retta*. The other objects found

¹ Brizio, *Monumenti archeologici della provincia di Bologna*.

included worked bones, arrowheads, axes, and knives and scrapers of flint.

b. Villa
Bosi.

At Villa Bosi, again, fourteen hut-foundations were excavated. They contained a fine bronze knife, flint implements, rough vases decorated with strips of clay in relief, and fine black vases sometimes with *ansa lunata*.

c. Porta
Saragozza.

Even more important were the hut-foundations which Brizio excavated in 1906 outside the Saragozza gate. Owing to his death the material has never been published. The foundations were of the usual conchoid form, and appeared to be in two series, one above the other. The hearthstones still remained in position in some of the huts. The material found included a number of bronze pins of *terramara* form and a large mass of pottery. The *ansa cilindro-retta* was very common indeed, as also was *ansa lunata*. The few incised sherds are very important. Two show what are apparently simple maeanders. The style of the incision is shown by the rough sketches in fig. 209 *a, c*. A third piece, a large fragment of a biconical vase, shows a spiral incised in a jagged line with a blunt point. In fact these few sherds show a type of ornament similar to that called 'Siculan' in South Italy, at Matera, Pertosa and elsewhere.

Some of the vessels, e.g. the ladle with *ansa cornuta* and the spouted cup, are clear *terramara* forms. There are also several earthenware figures. Some are quadrupeds similar to those of the *terremare*, but a few represent birds with long necks and are quite foreign to the *terremare*. Some of the pottery is ornamented with a combination of shallow broad grooving (*canalatura*) and circular depressions, a style found in the *terremare*.

d. Trebbo
Sei Vie.

Closely connected with this Bolognese group of settlements is that of Trebbo Sei Vie, in the *comune* of Castenaso (Map II, 137), at first described as a *terramara*, but which certainly cannot have been such.¹ Hearth-places were found resting on the original soil, and there was no vestige of a pile-structure. The settlement was, in other words, a hut-village. It belongs apparently to the bronze age, and indeed to an advanced period of that age. The bronzes are remark-

¹ *B. P.*, xxii, p. 251.

ably fine, and include winged axes, daggers, razors, pins, spearheads, chisels, together with two fibulae, one of violin-bow and the other of leaf shape. All these bronzes are typical of the *terremare*. The pottery, although it included the *ansa cilindro-retta*, was mostly *terramara* ware. A few pieces of incised ware occurred, including one example of the punctured-band ware so common in South Italy (Pl. VI, fig. 10).

Thus in all these settlements around Bologna we find the same curious mixture of *terramara* and other material that occurred in such stations as Monte Castellaccio. Mixed material on these sites.

Exactly the same facts are to be noted in the more easterly sites of this type, which lie in the neighbourhood of Imola and Forlì. The most important of these are Prevosta, Bertarina and Toscanella. More easterly sites.

At Prevosta (Map II, 141), which lies near to Imola, was discovered in 1883 a village of hut-foundations.¹ It extended over a surface of about 20,000 square metres. Twenty huts were carefully explored. They were all approximately circular, with diameters varying from 3 to 8 metres. In the centre of each was found a large hole which had contained the fireplace, and around which lay ashes, charcoal and animal bones. One only of the huts was double in form, shaped like a figure 8. The smaller half had evidently been used to hold the ashes and the refuse of the larger, which formed the dwelling-place. At the bottom of one hut were found a borer of bronze and other fragments of the same metal. 6. Pre-vosta.
a. The huts.

The pottery, according to Brizio, was all of the usual *terramara* type, and included many examples of *ansa cornuta*. Among the material, however, which now lies at Bologna, are numerous examples of *ansa cilindro-retta* and two fragments of a large vase adorned with spirals in relief. This proves that there is another element besides that of the *terremare* in the material of this village. b. Pottery.

The hut-village of Bertarina (Map II, 143) is peculiarly interesting* because of its situation. It lies 2½ kilometres south-east of Forlì, on a terrace of land between two branches 7. Bertarina.
a. Situation.

¹ Brizio, *Ep. Preist.*, pp. xxxiv-xxxv.

b. Huts.

of a river.¹ If this terrace be dug to a depth of 1·20 metres a stratum of dark earth is encountered, from 40 to 50 cm. in thickness. This contains the remnants of a number of hut-foundations. They are of the type usual in Italy, hollowed in the ground. They were not raised on piles for not only does the present position of the remains contradict this, but the clay hearths were sometimes found unbroken above the débris, which proves that they cannot have fallen into their present position from a height. The holes corresponding to the huts were usually circular and of diameter 1 to 1·30 metres; one example was oval, of diameters 2 metres and 3 metres. Around the holes and close to them were found the sockets of piles, once driven into the virgin soil. Four of these, at intervals of 80 cm., followed the line of the oval hut, slightly outside the hole. There is no doubt that these piles were not used to support the huts as in a *terramara* or lake-dwelling, but were the actual skeleton of the hut-walls themselves. One hut-foundation showed very clearly the complete circle of piles which formed its wall. The spaces between the piles were no doubt filled up with wickerwork or thatch, covered with clay or even hides. A similar method of construction would be followed in building the roof.

The material found shows the same mixture of neolithic and *terremare* types seen at Castellaccio.

c. Pottery.

The pottery is practically all of *terramara* type. There are the usual two qualities, the one of rough clay usually covered with a slip, and the other of finer make. All the vases are hand-made and baked at an open fire. The typical *terramara* ornaments are present: raised ridges running horizontally or vertically, either smooth or sliced across at close intervals; impressions of the finger round the rim; shallow furrows running in groups round the vase. The handles include both the *ansa lunata* so typical of the *terremare* and the *cilindro-retta*, a heritage of the neolithic people of North Italy. The last was very characteristic of this settlement, occurring in great quantity at all depths.

d. Bronze.

Bronze objects were not common. They included several

¹ Munro, p. 133.

pieces of unworked bronze, a dagger of *terramara* type, an arrowhead with a socket, two dagger rivets &c.

Flint implements were numerous, and included knives, e. Flint. scrapers and arrowheads. Several cores of obsidian were also found, together with stones used for pounding and grinding.

The settlement was bounded on two sides by rivers, and there is some trace of a moat on the third side. It was still inhabited at the beginning of the iron age. f. The moat.

The most important site of this group is perhaps that of 8. Tosca-Toscanella (Map II, 140), in the Imolese. It is a hut-village of the usual type. nella.

The most striking feature is that it contains clearly two distinct sets of objects. The first are beyond all doubt of *terramara* type, and might, as far as appearance goes, have been found in any *terramara*. Among these may be noted the bronzes, e.g. a triangular dagger of the early type, later leaf-shaped daggers, sometimes with handle cast in one piece with the blade, an axe with edges strongly raised, two tanged arrowheads, the usual pins, needles and borers, and finally two violin-bow fibulae. All these, except the first-mentioned, point to the fairly advanced bronze age, and even the first is a form which we know to have survived. a. Bronzes.

The bone objects are also of *terramara* type. Among them we may mention handles for borers, covered with incised concentric circles, smoothers or polishers, arrowheads, bits, and a bone wheel of the usual type.

A certain portion of the pottery belongs to the *terramara* type. We may note the usual cups, a set of small 'ritual' vases, and numerous *anse cornute*. b. Pottery.

But together with this material was found pottery of a very different kind. The *ansa cilindro-retta* was very common indeed (Pl. VI, fig. 5). This does of course occasionally occur in *terremare*, but it is in reality a neolithic form. Even more convincing is the occurrence of the handle of Marendole type (Pl. VI, fig. 3), which is never found in *terremare*. In the varying of these two handles the most amazing resource was shown, and the number of distinct forms is very large. On the other hand, the treatment of

the *ansa cornuta* at Toscanella (Pl. VI, figs. 6 and 7) is very stereotyped. Note finally the spouted vase (Pl. VI, fig. 4), which, however, may be a development of the *terramara* vase with a spout.

In the matter of ornament, much of the Toscanella pottery cuts itself off entirely from that of the *terremare*. We may note a series of sherds showing finely incised patterns (Pl. VI, fig. 9). The schemes, which are very varied and far from simple, are always arranged in horizontal bands, so far as can be judged from the fragments. Sometimes they remind one of the so-called 'Siculan' ware of South Italy, especially that of the Vibrata Valley, and on one fragment is seen the punctured-band ware so common at Pertosa and Matera. These sherds have usually a dark brown or a black polished surface, and the incisions, though varying in fineness, are never coarse.

Another method of ornament consists in the application of relief-strips and small knobs of clay. It is true that the same method of ornament is occasionally used in the *terremare*, but the application is different, as will appear to any one who will compare them in the original. At Toscanella the relief is used to give definite patterns, and sometimes the rest of the vase is covered with clay knobs. Vases ornamented in this way are generally large, and have a rough bright red surface.

c. Copper
sickle.

In conclusion, we note as a curiosity a copper sickle of un-Italian shape, published by Mosso, and described as coming from Brizio's excavations at Toscanella. The form is rather like that of the early Aegaeon sickles.

These
sites not
terremare.

All the stations described in this chapter agree in two particulars. In the first place, they are not *terremare* but ordinary hut-villages, and in the second place, they contain

They contain a
mixed
material.

a mixed material. Any one who has followed the description here given of the material of these stations will be convinced of the existence in it of two elements, one of which is clearly due to *terramara* influence, while the other is something utterly different, an element which the *terremare* cannot possibly account for. A glimpse at the material of these stations in the Bologna museum is sufficient. Side

by side with *terramara* bronzes are neolithic flints, and *terramara* vases alternate with incised ware that shows quite a different art.

What, then, is the explanation of this strange mixture, and who were the inhabitants of these caves and huts? The question is not difficult. We will assume for the moment a hypothesis which we hope to justify later, namely that the lake-dwellings and *terremare* were the homes of a people who entered Italy early in the bronze age, and who differed in race from the neolithic people of the country. It is, then, obvious that the people who lived in huts during the bronze age were the descendants of the old neolithic folk. The immigration of the new race did not entirely drive the old race out of the Po Valley. They continued to live in dwellings of the old type, but they adopted much that was useful from the new-comers. It was from these last that they received their first knowledge of bronze, at any rate all their bronze implements are of *terramara* type, and they also employed a considerable quantity of *terramara* pottery. Whether they made this themselves or imported it ready-made we can hardly say. Supposing, however, that they traded for it, it is difficult to see what they can have given in exchange, except perhaps flints.

What is the explanation?

The sites due to old neolithic race

under influence of *terremare*.

Such stations are distinguishable from *terremare* not by their form alone but also by their contents. Much of the material gathered in them is indistinguishable from that of the *terremare*; but there are always along with this certain objects which are foreign to the *terremare*, and which are easily recognizable as survivals from neolithic times. Thus in several of these stations we find pottery types which are clearly neolithic, together with others which are just as clearly *terramara* forms, one of the most notable instances being the occurrence in several stations of both *ansa cilindro-retta* and *ansa lunata*. The evidence of flints supports this. In most of these stations the objects of flint are not only very much more numerous than those of bronze, but they are of types which belong to the neolithic period in Italy, and are rarely found in the *terremare*. Thus we must conclude that, supposing the hypothesis of a new race to

Analysis of material found in these stations.

1. *Terramara* types.

2. Neolithic survivals.

These seen in
a. Pottery.
b. Flints.

be true, we have here, in the caves and hut-settlements, the remains of the old race, living apparently side by side with the new-comers, and enjoying the advantages of their more advanced civilization. If, however, this hypothesis be false, the question just discussed does not even arise for, if no new race came in before the beginning of the iron age, settlements dated to the bronze age can only belong to the old race.

Brizio's
theory.

Objection
to it.

Brizio, who believes the *terramara* people to be not a new race but the old neolithic folk in a later stage of advance, finds great difficulty in accounting for these survivals among the *terremare* of an element clearly distinct from them. He ingeniously gets rid of them by explaining them as marking the transition stage between the neolithic period and that of the *terremare*. Two considerations make this device impossible. In the first place, the material of these villages stands to true transition material as a mechanical mixture stands to a chemical compound. That is to say, the material is a combination of two elements which are not blended. If this were a transition stage we should find *terramara* forms of bronzes and vases coming into being, or developing towards the type afterwards to be found in the *terremare*. There is nothing of this. What we find is *terramara* objects in entirely strange surroundings, and always in their developed forms. In the second place, Brizio's view involves a hopeless difficulty of chronology. All the stations, or at least the majority of them, contain bronzes which belong to the full or even late *terramara* period. Examples of this are the fibulae of Trebbo Sei Vie and Toscanella, and the knife with flat tang and raised edges of Toscanella. How can these stations mark a transition to a stage of which they are the full development?

What actually happened was that the *terramara* folk arrived in Italy with pottery and bronzes already developed, so that these appeared quite suddenly among the neolithic people of North Italy.

Hut-
dwelling
continues

We have already seen that some of the hut-foundations commonly supposed to be of neolithic date may and probably do belong to the early bronze age. In fact, our evidence

seems to show that the custom of dwelling in huts half in the concealed in the ground began in the neolithic age and bronze age, continued in vogue among the neolithic people right through the bronze age and into the early iron age. Though these people modified their culture when they came into contact and even with the new race they did not modify their method of cave-dwelling. of living, for they continued to live, as in the neolithic period, not only in huts but even in caves. This was proved by the excavation in 1881 of the Grotta del Farné, or del Grotta del Farneto (Map II, 139). This cavern lies 11 kilometres south-east of Bologna, and its entrance is 30 metres above the present level of the Zena.¹ The cavern itself is a. The cave. about 18 metres in length, with an average breadth of 8 metres. Beneath it lay another smaller cavern, which originally communicated with the upper, and in which several objects fallen from the upper were found. This lower cave was, however, not inhabited.

In the excavations conducted by Brizio in 1881 a large mass of material was found.

The flints numbered about 200, of which some twenty b. Flints. were attributed on account of their size and the roughness of their working to the palaeolithic period, an attribution which is extremely doubtful. Most of the smaller flints were mere flakes, only three having a definite oval form. These might be either lance- or arrowheads. Of polished stone only one implement was found, a 'hammer' of chloro-melanite. A few stones used for grinding were also found.

The objects of bone were all of types usual in the *terre-* c. Bone objects. *mare*, and included daggers made from the cubital bones of the ox and stag, arrowheads, needles, polishers, and picks of stag's-horn.

Close to the cavern, though not actually within it, were d. Bronzes. found two axes with flanged edges, of the usual early *terramara* type. That the inhabitants of the cave were acquainted with the art of casting bronze is clear from the presence of an earthenware crucible with minute fragments of metal still visible on its inner surface.

The pottery bears in part a most striking resemblance e. Pottery.

¹ Brizio, *La Grotta del Farné nel comune di San Lazzaro presso Bologna*.

to that of the *terremare* (Pl. VI, fig. 2), while, on the other hand, it has certain neolithic characteristics. The neolithic element is still shown in the *ansa cilindro-retta*, while the numerous *anse cornute* point to the *terremare*. Other handles are a type of *ansa ad ascia* slightly curved outwards and a handle consisting of a broad vertical tongue of clay rolled over at the top (fig. 211 b).

Incised decoration is of two kinds, produced with a sharp point (*graffito*) (Pl. VI, fig. 8), or with a blunt implement (*a stecca*). Among the *graffiti* are zigzags and groups of parallel lines, while the finest piece of *stecca* work is a spiral.

Several of the vases are of a black or brown polished surface, and both in technique and in form are indistinguishable from those found in the *terremare*.

f. Animal
remains.

The animal remains are those of the roebuck, pig, dog, stag, ox, sheep, goat and fowl. In the excavation of 1872 had been found also those of the horse and wolf.

g. Cereals.

Later excavations have done much to complete our picture of the inhabitants of the cavern. Unfortunately the results remain unpublished owing to the death of the excavator, Brizio. The most important particulars, as far as can be ascertained, are the following. Carbonized remains of wheat and other vegetables, including acorns, have been found. These show the inhabitants to have been not entirely ignorant of agriculture. In a division of the cave lying far removed from the entrance were found no remains of habitation but an immense series of broken vases arranged along the cave-wall. These are apparently ossuaries, and are often ornamented with the concentric semicircles in relief which occur so frequently on the *terramara* ossuaries. This does not for a moment prove that the cave-men cremated their dead, but only that the cave was at some period, probably later, used for burial by people of *terramara* race.

h. Ossu-
aries.

Continua-
tion of
the neo-
lithic civi-
lization
in the
bronze
age.

With all this evidence before us we are justified in asserting that in Eastern Emilia the neolithic civilization of the *Liguri* continued during the bronze age, though it underwent certain modifications due to the influence of the new people of the *terremare*.

But however great these modifications might be, we should

not expect them to affect the burial, which among these *Liguri* was so constant and immovable. Unfortunately we have no bronze age burials in Eastern Emilia, but there is one not far away which is undoubtedly to be attributed to the same people and period.



FIG. 202. Bronze pin, Povegliano. Scale c. $\frac{1}{3}$.

Povegliano lies 16 kilometres to the South-West of Verona (Map II, 107). In 1876-7 fourteen inhumation burials were discovered there.¹ Each body lay with feet to the West in a simple trench hollowed in the soil, at a depth of 0.50 to 1 metre. In some of the graves it is said that 'charcoal and cinders' were observed. Montelius suggests that these may be the remains of wooden coffins. Most of the graves

¹ Montelius, p. 200.

contained bronze swords or daggers; others, those of women perhaps, contained bronze pins and amber beads. A curved flint saw and two flint lanceheads were found in the men's graves.

The bronzes recall very strongly those of the *terremare*. They include two pins with rounded heads, thickened below the neck and pierced, two with a head of three rings (fig. 185), and two of the type figured (fig. 202). There are six swords and several daggers. Of the swords one is similar to fig. 175, the blade swelling slightly towards the centre back and front, and the tang being flat with flanged edges. Two have a rather marked square rib down the centre (fig. 173), while a third has no rib, but shows fine incised work on the blade. The daggers show the usual *terramara* form with convex edges.¹

Conclu-
sion.

In conclusion we may sum up as follows. The *terramara* folk at the time of their immigration did not expel their predecessors the *Liguri* from North Italy. These latter continued to live and to bury in their old fashion right up to the confines of the *terramara* country. They continued to use pottery and flints of neolithic types, but side by side with these they used pottery and bronzes of the types introduced by the *terramaricoli* or *terramara*-dwellers.²

II. THE BRONZE AGE IN THE MARCHE.

The
Marche.
Isolated
finds.

In this district we are not without evidence of a bronze age, and we can even to some extent distinguish its periods. The first is marked by the finding in many localities of the

¹ It is said that ossuaries containing burnt bones were also found in this cemetery. The evidence on this point is unsatisfactory. Confusion has probably taken place with cremation burials of iron age date.

² This type of settlement, viz. the village not built on piles, but yet showing material similar to that of the *terremare* and lake-dwellings, is believed by Colini to exist as far north as the Trentino. For Orsi has described four settlements at Castello di Tierno, Castel Pradaglia and Entiklar (see *Archivio storico per Trieste, l'Istria, ed il Trentino*, vol. ii, 1885), and at I Monticelli, near Pergine (Trentino) (see *B. P.*, xxii, pp. 290-1). But the most important site of this type in the district is the rock-shelter of Colombo di Mori (Map II, 100), (see *B. P.*, viii, p. 180). Orsi, the excavator of the site, assigned it to the neolithic period, but Colini believes it to be later, as the pottery appears to him to resemble that of the *terremare*. Judging by the published figures the resemblances do not seem to me very striking, and I should prefer to await further evidence.

flanged celt. Colini has given a complete list, which included examples from all parts of the district.¹ At Fermignano (Urbino) a considerable number of these celts were found together in a hoard.² Nothing else was found with them. To the earlier part of the bronze age must also be referred the twenty-five daggers that form the hoard found at Ripa-transone.³ They are of the well-known triangular type, some with handles of bronze, others without. A similar dagger, though of copper and with a central rib, was found at Ascoli-Piceno.

The later stages of the bronze period are represented by winged celts from various localities, two swords with flanged tang from Montegiorgio, another from Falerone (Ascoli), a dagger with similar tang from Caldarola (Macerata), and finally a pin with spiral head from Rotella (Ascoli).⁴

But fortunately we have more satisfactory evidence for the bronze age in the Marche than these isolated discoveries.

We have seen how in Eastern Emilia the civilization of the neolithic *Liguri* continued during the bronze age, influenced, however, by that of the *terremare*. Now the northern boundary of the Marche is the southern boundary of Eastern Emilia, and it would therefore not be surprising if the same civilization prevailed on both sides of the border. And indeed it does. Just as in Emilia we find huts and caves containing a material partly resembling that of the *terremare*, so, too, we do in the Marche.

In the neighbourhood of Arcevia have been found a number of hut-villages of this period.⁵

At Le Conelle, 4 kilometres east of Arcevia (Map III, 145), a section of a hut-foundation was laid bare in cutting the road to Piticchio.⁶ The foundation itself is hollowed in the gravel. It is 4.50 metres in diameter and 4.20 in depth. Its most remarkable feature is that it possessed two

¹ *Atti Congr. Int.*, 1903, p. 30.

² *B. P.*, i, pp. 38-9.

³ *B. P.*, xiv, p. 75.

⁴ *Atti Congr. Int.*, p. 30.

⁵ Brizio, *Ep. Preist.*, pp. xxxv-xxxvii; Brizio, *Il sepolcreto gallico di Montefortino*, pp. 15-27.

⁶ *Mon. Ant.*, ix, p. 623; *Not. Scav.*, 1891, p. 241.

floor-levels, the upper separated from the lower by about 70 cm. of gravel. The upper is of simple concave shape, but in the lower the archaeological stratum, which is a metre in thickness, is concave above, flat below, and restricted in the middle. In fact a section of the whole has the form of a wine-glass set on a very low foot. It is evident that at some period the floor-level was raised artificially by laying down a bed of gravel, perhaps after a partial collapse of the walls. There was no apparent difference in type or period between the material found in the upper and lower strata. The flints were of fine workmanship, and included arrowheads of olive-leaf and almond shape, and javelin points. Among the remains in the lower stratum were found pieces of clay, level on the upper surface, which was hardened by repeated cooking, and rough on the lower. These, which lay in the centre of the circle, are without doubt the remains of the hearth. Around them lay broken animal bones and potsherds. The animals represented include the ox, wild boar and dog. The pottery is of two types, rough and fine. To save useless description we may accept Brizio's statement that 'both in material and in ornament the vases recall those of the *terremare*; the *ansa cornuta*, however, characteristic of these stations, was lacking'.

b. Flints.

c. Hearths.

d. Animal remains.

e. Pottery.

f. Other remains.

Other remains found are mattocks of stag's-horn, stone hammers, two fragments of discoidal spindle-whorls, a shell (*Pectunculus*) pierced for hanging, and a stag's-horn awl-handle incised with small circles. All these are objects typical of the *terremare*. One small fragment of terracotta looked like the end of an *ansa cornuta*. It may be added that on the surface of the plain, and quite close to the hut examined, were found specimens of *ansa cornuta*, *cilindro-retta* and *ad ascia*. These no doubt lie on the surface of another hut-foundation, and other signs prove that a village of such huts existed.

Similar
villages
else-
where.

Remains of similar villages were found at Crocefisso, Ponte del Goro and La Pieve, all in the neighbourhood of Arcevia.

These villages are precisely similar to those of Emilia.

They contain the same mixture of *terramara* and other Mixed material, and are to be attributed to the same people in the material same stage of development.

It is interesting to note that remains of the same kind Similar occur in the cave of Frasassi, which lies in the province remain of Ancona, near Fabriano (Map III, 146).¹ It was first in a cave noticed in 1872, but the earliest excavation of any extent Frasassi was made by Scarabelli in 1879. In his report the strata are said to be two, one Roman and the other of the bronze age. In the latter, however, were found three small sticks of bronze which proved to contain lead, a metal not used in alloy until the iron age. Chierici therefore supposed that the cave represented various periods. Pigorini was inclined to assign the whole of the lower deposit to the iron age. However, after the publishing of Scarabelli's results, several more objects were found in the cave. These included *anse lunate* of the usual *terramara* types. It can therefore no longer be doubted that the cave was inhabited during the bronze age, and that its inhabitants were affected by the influence of the *terramara* folk.

Among the finds in the bronze age stratum were clay spindle-whorls, pyramidal loom-weights, and a borer of stag's-horn.

It is certainly remarkable to find such strong *terramara* Terra- influence so far from the actual seat of that civilization, mara in and it is natural to ask whether we cannot find some outpost fluence. or colony of *terramara* folk in the Marche to account for Did terr the strength of this influence. Now it is certain that at mara fo some period of the bronze age there was a large movement reach th of *terramara* folk towards South and Central Italy. It is Marche believed by some that this movement in part took place through the Marche, and in support of this they point to a remarkable discovery made many years ago.

Two kilometres north-east of Offida (Piceno) lies a closed Offida. valley,² now dry except for a small stream at its bottom, but once a lake (Map III, 149). In this valley, at a depth

¹ *Mem. Accad. Linc.*, ser. 3^a, 1880, p. 78. *B. P.*, vi, p. 165; xx, p. 28; xxi, p. 109. *Not. Scav.*, 1893, p. 325.

² Allevi, *Offida Preistorica*, pp. 31-5; *B. P.*, v, p. 73.

- a. The 'raft'. of 5 metres from the surface, was found a wooden platform 48 metres by 14, apparently orientated. It consisted of large tree-trunks laid at intervals of about 1.30 metres, upon which were arranged crosswise smaller branches. The interstices were filled up with rushes, twigs and lake mud, and a layer of moss covered the whole. Beneath the platform lay 3 metres of clay, the lower strata of which contained the remains of everyday life of the dwelling above, consisting of animal bones, charcoal, potsherds, flints &c.
- b. Flints. Among the flints are mentioned two lanceheads, which, 'if roughness of flaking were a true criterion, would go back to the palaeolithic age'; an almond-shaped arrowhead worked on one side only; a fragment of a piercer; a rectangular knife of triangular section. The bones were all split into small pieces for the extraction of the marrow, and the only animals recognized were the ox and the stag.
- c. Bones.
- d. Moulds. Of great importance are pieces of moulds for casting bronze. They belong apparently to two separate moulds, one for a simple flat axe and the other for a winged celt. The vases are of two types. The larger are of impure clay, black within, yellowish or reddish without. The smaller are of pure clay, black in fracture but reddish on the surface. Only three of the fragments found were entirely black. All this pottery is hand-made. Only one handle was found, and that was semicircular. Finally, about twenty pieces of raw bronze were found, weighing from 150 to 700 grammes, and cast in circular moulds.
- e. Pottery.
- f. Bronze.

Offida not
a *terra-
mara*
settle-
ment.

This settlement at first leads us to suppose that the people of the *terremare* must have inhabited the neighbourhood of Offida. Unfortunately we have to rely on the very incomplete evidence afforded by Allevi's account. None of the finds have been published, nor have further researches ever been undertaken. To begin with, we have no evidence whatever that this settlement was built by *terramara* folk. It is not a *terramara* at all. It is built on a natural lake. It has no moat, no wall, no buttress. Above all, it is not supported by piles. I quote Allevi's own words as to this last point: 'I did not meet with any beams which might have served to support the platform. The structure, then,

is not a pile-dwelling in the true sense of the word ; it had no piles, but rested perhaps on artificial islands, on supports consisting of stone, branches, mud, or perhaps—and this seems to me more probable—floated like a raft (a thing not unparalleled in Italy and elsewhere), rising and falling with the water.’

The structure, then, is not a *terramara* or even an ordinary pile-dwelling. This being so, and in the absence of other evidence, it would be rash to attribute it to the *Italic*i. It is far more likely to be due to the *Ibero-Liguri* of the place, who, seeing that the lake afforded a safe site for a settlement, adapted their dwelling to the circumstances.

We must therefore conclude that though, as we shall see in the next chapter, a body of the *terramara* folk did pass through the Marche towards the end of the bronze age on their journey south, yet at present we have no evidence that they made their home there for any length of time.

No evidence that the *Italic*i inhabited the Marche.

III. THE BRONZE AGE IN LIGURIA.

Of the bronze age in Liguria we have as yet only incomplete records. There are, however, some objects, found sporadically, which must belong to the bronze age, for example, the axe with flanged edges and an almost circular inlet in the heel, or the winged axe, with the wings almost forming a socket. These two objects represent the early and late periods of the bronze age respectively. To the later may be assigned a concavo-convex knife and perhaps a simple bracelet.

Liguria. Sporadic finds.

Amerano, followed by Colini, assigns some of the Ligurian pottery to the bronze age, on the ground of its likeness to that of the same period in other parts of Italy. The most convincing examples are the so-called *fischietti* or whistles of *terramara* type, and the open hemispherical cups with distinct neck and lip turned out.

Pottery.

On the whole, it is best to regard nothing as certain concerning the bronze age in Liguria. The bronzes and some of the pottery do indeed suggest the influence of

Scarcity of evidence

the *Italic*i of the lakes and the *terremare*, but the evidence is too slight to be of much value. Having regard to the reputation of the Ligurians as seamen, and to their wide trade-relations in neolithic times, it is possible that their bronze age, when better revealed to us, may show a phase of its own due to foreign influence. There is good reason to believe that during the bronze age the Ligurians continued to inhumate their dead, for the earliest cremation cemeteries there belong to the iron age, and do not go back beyond the fifth century B. C.¹

Rock-en-
gravings
in Liguria.

To the bronze age belong some at least of the remarkable rock-engravings of the Monte Bego district.² They occur in several valleys, Valle d'Inferno, Valle di Valauretta, Valle di Fontanalba and Valmasca. The figures vary in height from 5 cm. to 1.76 metres, and are incised on smooth slabs of rock, horizontal, slanting or vertical, probably with metal or stone chisels, aided by mallets. Sometimes they are cut into the living rock, sometimes into the fallen masses lying close by. The simplest represent manufactured objects, arrowheads, spearheads, axes, daggers, sickles and halberds (fig. 203), some, perhaps, of stone, others certainly of metal. From more complex objects, such as a cart and a harrow, we pass on to figures of oxen drawing ploughs or harrows, sometimes with a human figure guiding the plough (fig. 206), and occasionally another preceding it. The human figure also occurs in other combinations. It is usually a man holding up a hafted axe or halberd (?) (fig. 205) much bigger than himself, or brandishing a javelin. The most intricate designs of all have been with great probability interpreted as figures of sheepfolds and huts &c.

Objects
repre-
sented.

It is impossible to discuss here the whole question of these drawings and their affinities to those of other localities outside Italy. A few results, however, may be briefly indicated.

Date.

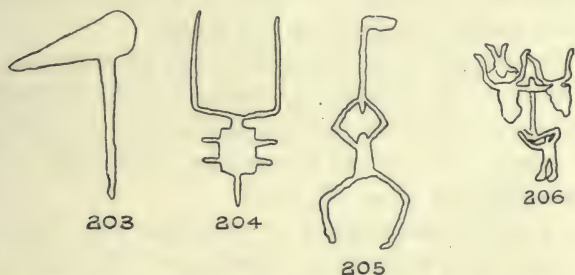
The drawings may undoubtedly be attributed to the

¹ *Rend. Acc. Linc.*, 1899, pp. 153-4.

² Bicknell, *The Prehistoric Rock-Engravings in the Italian Maritime Alps*, 1902; *Further Explorations in the Prehist. Rock-Engravings in the It. Mar. Alps*, 1903. *B. P.*, xxiv, p. 265; xxvii, p. 217; xxviii, p. 234.

bronze age in part, if not altogether. Some of the implements represented are certainly of bronze age types, and others, though probably of stone, may belong in date to the bronze age. The frequent appearance of the bull (fig. 204) and the ploughs and harrows reveals an agricultural and pastoral people. They could not, however, have carried on their everyday pursuits in the wild desert valleys in which the drawings are found, and therefore these places may well have been the scene of a cult of some kind. Their existence in such inaccessible regions is then explained as due to a desire to avoid the risk of destruction, and perhaps to the awe usually shown by primitive man for the more

Their purpose.



FIGS. 203-206. Rock-drawings, Liguria. (After Issel, *Bull. Pal.*)

savage aspects of nature. At the same time, it is possible that their purpose was not religious at all; they may represent the history of a people, or may even, by an official document of some kind, record arrangements between tribe and tribe, or between man and man. In either of these cases one would expect the drawings to be of the nature of pictographs, and to express definite ideas according to a conventional code. And this may well be so, for many of the drawings cannot be explained as mere copies of objects, but seem to belong to a conventional scheme of some kind.

On the whole, the most probable hypothesis is that of a religious cult, for this is the only one which explains the appearance of these signs in such a strange locality.

Finally, it must be mentioned that the drawings show some analogy to the marks on many of the West European

dolmens and menhirs, and also the rock-drawings in Asia Minor, the Canaries, and Morocco, but until the comparisons have been properly made on a large scale it would be merely misleading to attribute any value to the resemblances.

IV. THE BRONZE AGE IN THE VENETO.

The Veneto. Of the history of the Veneto in the bronze age we know little, and that little presents difficulties and problems. 1. Earlier bronze age. We have already dealt with the lake-dwellings of Arquà, Fimon and elsewhere, and we have seen in Chapter XV that lake-dwellings *terramara* influence is very strong in that part of the district and *terremare* which borders on Lombardy, and it is quite possible that there were actual *terremare* in this region.

Hut-foundations. Marendole. But the cemetery of Povegliano has already warned us to expect in these districts an element quite distinct from that of the lake-dwellings and *terremare*. Accordingly, it is no surprise to find at Marendole, near Este, a village of hut-foundations (Map II, 105).

Several hut-foundations with hearths were found, and also a number of cylindrical refuse-pits.¹ In none of these were bronze objects discovered, but close by, in the archaeological stratum, occurred a chisel and a knife, the latter of *terramara* type. Pottery. The most important objects found were the vases, which differ in respect of their handles from Handles. any other group known in Italy. The handles in question are shown in fig. 207. And they may be named the 'beaked', the 'crested', and the 'bilobate' handle respectively. The bilobate probably had its origin in the crested, which was sometimes pierced with a small hole in the upper part. The beaked handle occurs in Italy at Marendole, Toscanella, Coppa della Nevigata,² and at Farneto, this last being a rather doubtful case. The crested type occurs at Marendole and Toscanella, and the bilobate at Marendole, Pertosa and Arquà; the last example is, however, differently made.

¹ Cordenons, *Antichità preistoriche della regione Euganea*, 1888; *B. P.* xxiii, p. 66.

² There are no examples from here in the museum at Rome, but there are two at Naples.

The bilobate handle also continued in vogue in the iron age stations of the east slope of Italy.

Cordenons was, I believe, the first to point out the fact that these three handles occur on both sides of the Adriatic. The beaked form has been found in the early bronze age *castellieri* of Istria, and both the crested and the bilobate occur in the same period in Bosnia. Similar handles in Istria and Bosnia.

There is at Marendole one specimen of *ansa cornuta*, but it is of curious form, with no exact parallel in the *terremare*. *Ansa cilindro-retta* is quite common at Marendole.

Cordenons explained, probably rightly, the similarity between the Marendole handles and those from across the Explanation of this.

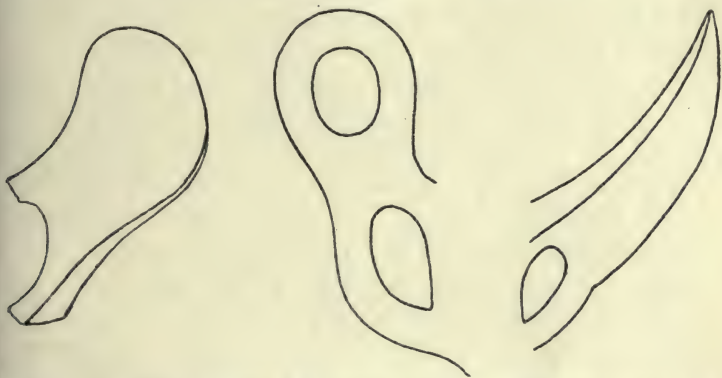


FIG. 207. Crested, bilobate and beaked handles, Marendole. Scale c. $\frac{1}{2}$.

Adriatic by the supposition that the inhabitants of both districts were of the same race.¹ The discovery of beaked handles at Coppa della Nevigata, and of the bilobate type at Pertosa, though this last may not actually belong to the bronze age part of the deposit, and of both beaked and crested forms at Toscanella, complicates the problem very considerably. Indeed the whole of the Adriatic slope of Italy exhibits some remarkable features of similarity with the northern Balkans, a point which will be dealt with in the next chapter.

At the end of the bronze age in the Veneto an entirely new type of pottery suddenly appeared, quite distinct 2. Later bronze

¹ B. P., xxiii, p. 80.

age in the Veneto. from the Marendole ware, and from what we have termed *terramara* ware. The questions to which this pottery gives

Canavedo.

rise cannot be fully discussed here, as they belong more strictly to the iron age. The main facts, however, are as follows. At Canavedo, near Este (Map II, 106), were discovered remains of hut-foundations with pavements of beaten clay.¹ The pottery found among these remains differed very completely from that of Arquà. Its chief peculiarities were the use of relief ornament and of patterns formed by pressing string or cord against the wet clay. New, too, was the use of the maeander as an ornamental element, and the appearance of the so-called *alare*, or 'fire-dog' of earthenware, always found above the hearths. The bronzes show that the settlement was parallel with the graves of Period I in the great cemeteries of Este.

Lozzo Atestino.

At Lozzo Atestino (Map II, 103) was found another settlement of a similar type, showing signs of rather greater antiquity.² The pavements of beaten earth were bounded by a course of rough stones, which formed the foundation of the hut-walls. Objects of flint were very common and, although most of the pottery was of the new or 'Canavedo' type, some examples of the older ware were found. The most interesting object of bronze was a chisel which must belong to the full bronze age, even if it be no later. It is most probable that this settlement belongs to a transition stage between the bronze and the iron ages. It is a little earlier than the first Atestine Period of the iron age, and for those who attribute the civilization of the iron age in Este to a new people it would mark, perhaps, the first appearance of this folk.

V. THE BRONZE AGE IN LATIUM, TUSCANY AND UMBRIA.

Latium, Tuscany and Umbria.

Evidence as to the bronze age in these districts is not very abundant, and consists mainly of isolated finds. It is, however, sufficient to show us a bronze age civilization parallel in some respects to that developing at the same

¹ *B. P.*, xiii, p. 156, 185.

² *Not. Scav.*, 1903, p. 537.

time in other parts of Italy, at least in respect of the metal implements in use. At the same time there are, as will be seen, certain phenomena which are not explicable as due to the influence of the bronze civilization of North Italy, i.e. of the lake-dwellings and *terremare*.

The very beginnings of the bronze age are represented by the grave of Battifolle, which is the only bronze age burial as yet known in these districts. 1. Earlier bronze age.

At Battifolle (Map III, 148), near Farneto (Cortona), Battifolle. on the slope of a hill, a trench-tomb was discovered.¹ It contained a skeleton in bad condition. Near the head lay a small vase containing a flint dagger, near the shoulders two axes of bronze, and by the left side a dagger of bronze.² The flint dagger is of the usual eneolithic form with a tang, and is remarkably short (8 cm.). The copper dagger is narrow except at the heel, where it broadens out and is rounded. It is of a shape which occurs in eneolithic times and lasts on into the bronze age, occurring in the lake-dwellings of Mercurago, Polada, Varese, and in the hut-foundations of the Valley of the Vibrata. The axes are both almost rectangular, curving out slightly towards the cutting-edge, which is convex. One is of unusual length (19 cm.), and the edges are beaten so as to form a slight flange. The other is 9 cm. in length, and, for its size, thick and massive. The edges are slightly flanged. Both these forms are more advanced than those of Remedello, and are, in fact, early examples of the true flanged axe of the bronze age, to the beginning of which the grave must be attributed.

The *rectangular* axe with flanged edges is not common in Italy, and hence the importance of this grave. The form occurs in France and in Central Europe, including the Swiss lake-dwellings, but it is wanting in the Eastern Mediterranean and, so far, in Spain. This certainly suggests that very early in the bronze age Tuscany was within reach of the metal exports of Central Europe, though the lake-dwellers

¹ *Not. Scav.*, 1894, p. 168.

² Colini describes all three metal objects as being of copper, from which I presume that since the report here quoted was made they have been analysed.

who had descended from Switzerland into Lombardy may well have been intermediaries on the route.

Isolated
finds.

Passing on to isolated finds, the early part of the bronze age is in these districts, as usually in Italy, marked by the axe with flanged edges, common in Umbria and not rare in Tuscany and Latium, sometimes occurring in hoards. Umbria has also yielded bronze arrowheads with a tang, and others of copper, closely imitating flint prototypes. To the early period also belong several broad daggers of eneolithic type with rounded ends set with rivets, or with a pierced tang. Some of these are of copper, and may belong to the eneolithic age. To these forms have to be

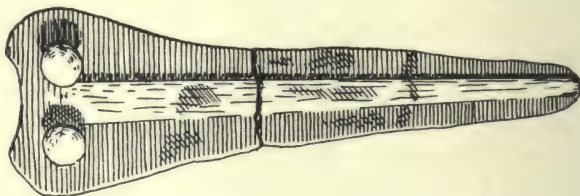


FIG. 208. Halberd(?), Montemerano. Scale c. $\frac{1}{2}$.

added daggers with the same broad blade and handle of bronze, some of them bearing fine incised lines on the blade.

Hoard of
Monte-
merano.

But the most interesting weapons belonging to the earlier bronze age were found in 1893 at Montemerano, near Saturnia (Map III, 147). It is not known whether they belonged to a hoard or a burial. Three of them are ordinary flanged axes with semicircular inlets in the base. Another is a blade of a dagger(?), with three ribs down the centre. Another weapon is roughly triangular (fig. 208). It is 19 cm. in length, has a strong central rib, and two rivets at the heel. The traces of a wooden handle were at first still to be seen. From these it is clear that the handle met the blade not at right-angles but obliquely. The weapon is thus not a dagger, but was probably set in a long handle to form a halberd. To this we shall have to recur.

To the latter part of the bronze age must be assigned several swords of type fig. 175 with flanged tang, and a dagger also of form common in the *terremare*. A number of winged axes mark the same period, and in their more advanced examples lead up to the end of the bronze age, signalized by three violin-bow fibulae.

CHAPTER XVI

THE BRONZE AGE IN SOUTH ITALY

The
bronze
age in
South
Italy.

UNTIL the last few years the story of South Italy in the bronze age was almost a complete blank. All the knowledge we possessed came from the work of Rosa on the hut-foundations of the bronze age in the Valle della Vibrata, from two or three hoards, and from a not very large number of isolated bronzes. Even now it cannot be said that our knowledge approaches completeness.¹ The discoveries of the last few years have been of vast importance, but he would be rash who dared to lay down the main lines of bronze age development in the South with anything like the precision with which they can be laid down in the North.

Its two
elements.

Nevertheless, it is possible to distinguish in the bronze age of South Italy two main elements, firstly a native or South Italian element, and secondly a 'foreign' element due to the influence and even immigration of *terramara* folk from North Italy.

I. THE
NATIVE
ELE-
MENT.

The native element is known to us from three groups of finds, the hut-villages of the Vibrata Valley, the caves of Campania, and the rock-tombs of Matera. The bronzes found in these various sites are few in number and usually of types common in North Italy, so that they afford no basis for classification. The pottery, however, is of a peculiar type, and it is this that justifies us in including these sites under a single head.

We must now proceed to ask what can be ascertained as to the nature of this South Italian civilization.

A. Hut-
dwellings.

In the first place, the practice of dwelling in huts half sunk in the earth was in use in the bronze age as in the neolithic. Indeed, it would seem that in the Valley of the

¹ For attempts at construction see *B. P.*, xxvi, pp. 6 ff. ; xxix, pp. 84 ff.

Vibrata, where we have already seen neolithic hut-villages, the same people continued to dwell undisturbed in the bronze age.

A number of these bronze age huts in the Vibrata Valley (Map III, 150) have been excavated. The bronzes found included axes, a sickle, daggers, and arrow- or lanceheads. The axes are of the flanged type. One is very small and has no notch at the top. It is undoubtedly a very early form, and belongs rather to the eneolithic period than to the bronze. The daggers are either of the *terramara* type, narrow ribbed and expanding slightly at the heel, or of the flat broad type with round base. Some very tiny examples of the last must be arrow- or lanceheads. Of arrowheads proper we have two types, one with rib and tang, the other with socket. There is also a fragment of a sickle, too small to allow of its form being determined.

The pottery is of red or greyish fracture with a fine polished black face. One piece only is polished bright red. The vases appear to have been mostly cups of graceful forms. The handles show great variety. They include a very high ribbon form, *cilindro-retta*, *cornuta* and *ad ascia*.

The ornament is that usual in the bronze age of South Italy. It consists of incisions and punctures. There are the usual maeanders and spirals drawn in bands of dots bordered by lines. Besides this there are maeander and rhomboid patterns drawn in single lines, often very carelessly (fig. 209). More unusual in this type of pottery is the use of cross-hatching (see fig. 209 *h* and *i*).

Finally must be noticed two animal heads plastically rendered in terracotta. One is an ox with long horns, and the other may be a goat. Both are remarkably well rendered, and are far in advance of the plastic animal figures of the *terremare*.

But as in North Italy so in South hut-villages were not the only type of habitation in use, for caves still served for this purpose. The most important lay in the neighbourhood of Naples and in the mountains to the South-East of that district. They are four in number: Felci in the island

of Capri, Nicolucci near Sorrento, and Pertosa and Zachito among the hills.

1. Grotta delle Felci. The Grotta delle Felci (Map III, 160) is in reality a huge natural cleft in the rock.¹ The deposit is of the type usual in inhabited caves. It includes knives of both flint and obsidian, the latter substance being imported, as it is not found in the island. These knives have either straight or toothed edges. Other objects of stone are club-heads of diorite, sharpening-stones of sandstone, sling-missiles of limestone, and possibly a bracelet, of limestone also. Primitive mills consist of a lower flat stone on which the substance to be ground was laid, and large rounded pebbles with which the grinding was done. Some of these grinders are marked with red ochre, and from this we may infer that here, as in Ligurian caves and elsewhere, the substance was used for ornamental purposes.

b. Pottery. The pottery is of impure clay mixed with quartz, and the firing is bad. The fracture is black, but at the surface the clay has burnt red. Among the handles are ribbon shapes applied vertically or horizontally, and cord shapes applied horizontally, also simple knobs and a kind of *ansa cornuta*. The ornament consists partly in bands of clay in relief or rows of small protuberances on the surface, partly in incisions. These last include maeanders and spirals, sometimes with punctured zones. One fragment has a fine shining black surface on which are incised geometrical designs filled with a white substance. Of the forms the most important are small handleless 'hour-glass' vases, ovoid cups with splayed-out rim and rather high-set cord handle, a fine *scodella* or basin, with a distinct foot, incurved rim, and fine transverse fluting round the keel, and finally a shallow cup or ladle of typical South Italian form, with the usual tongue-like handle rising from the rim.

All this pottery and its ornament is clearly of the South Italian type. De Blasio assigns it without hesitation to the neolithic period. Later discoveries have made such an attribution almost impossible. The material is in the main so similar to that of Pertosa that a chronological parallel

¹ B. P., xxi, pp. 58 ff.; Tav. III.



FIG. 209. Fragments of South Italian incised ware. (Partly after Patroni, *Mon. Ant.*)

is certain. In any case, the fluted and footed *scodella* is rather too advanced to be a neolithic form. We must therefore conclude that at least a part of the material reaches the bronze age.

c. Bones.

Among the bones in the cave were several belonging to human beings. The one skull was dolichocephalic with an index of 72.

This pottery similar to that of the Vibrata huts.

Here, then, in the island of Capri, we find the same type of pottery incision as in the huts of the Vibrata Valley. The designs are usually in bands bordered by two lines and filled up with points, and the most usual patterns are the spiral and the maeander. The incisions are often filled with a white substance which serves to show them up more clearly (cf. fig. 209 e, f).

2. Grotta Nicolucci.

Exactly the same ware is found in the second cave of this group (Map III, 159), the Grotta Nicolucci, near Sorrento.¹ It contains a true archaeological stratum protected by a stalagmitic formation above it. The pottery is of two kinds, rough and fine.² The vases of finer clay are smoothed on the surface with a polisher.

a. Pottery.

The handles consist often of mere knobs, but there are several examples of *ansa cornuta*. The ornament is either simple incision (zigzag, dog-tooth &c.), or strips of clay in relief, pitted with the finger-tip, or slashed across at short intervals with a sharp tool. One fragment at least shows a maeander incised in freehand. This fact, and the type of the pottery in general, serve to connect it with the typical bronze age ware of South Italy. Other objects of terracotta are spindle-whorls of flattened-spherical form, and cylindrical weights.

b. Stone objects.

Of flint are rectangular knives with two facets on the upper side, and arrowheads of fairly fine work with tang and wings. Other stone objects are made of a kind of sandstone; they consist of three arrowheads, one triangular with straight base and the others almond-shape,

¹ B. P., xiv, p. 65.

² Lorenzoni distinctly states that some are made on the wheel. If this is really the case its importance cannot be overestimated. The use of the wheel in the age of bronze is not known in Italy. But it is probable that the vases in question came from a later stratum in the cave.

a piercer, two polished axes, sling-stones and pounders. Finally there are polishers made of bone, and a two-pronged hairpin of bronze. This latter was found under the stalagmitic deposit among the rest of the archaeological material. The cave was therefore inhabited in the bronze age. At the same time it is quite possible that some of the material goes back to the eneolithic or even neolithic period. The presence of an *ansa cornuta* so far from its supposed home, the *terremare*, constitutes a distinct puzzle. It will be discussed in dealing with the whole question of the *ansa cornuta* in Chapter XVIII.

Of still greater interest (Map III, 156) is the Grotta di Pertosa, from the strange fact of its containing a pile-structure. It lies in a small hill of the same name in the district of Caggiano (Salerno).¹ A stream now flows through the cave, which is long and narrow. It is clear that this stream already existed in prehistoric times, for the whole floor of the cave is covered with a kind of raised wooden stage or *palafitta*. The structure of this stage is as follows. Four piles were driven into the ground at the corners of a square. Their tops were abruptly pointed. Four beams were then forked at each end and each beam was laid across a pair of the piles, so that the forked end of the beams fitted on to the sharpened tops of the piles. The four beams thus formed the four sides of the square. Crossbeams were now laid above them, and the stage was then paved with a layer of oak-bark, reeds and other material. This stage formed only a single unit of the *palafitta*, which was completed by adding similar squares round the first after the manner of a draught-board.

The pottery found in the cave was in a somewhat broken condition. Several vases, however, were reconstructed with certainty. The most typical shapes are shown in fig. 210. Particularly noticeable are the *scodella* or basin (fig. a), very similar to the later Greek shape, the tongue-handled vase (fig. b), and the double handle in fig. 211 d. A set of

¹ Patroni, *Caverna naturale con avanzi preistorici in provincia di Salerno*, in *Mon. Ant.*, ix; Carucci, *La grotta preistorica di Pertosa, Salerno*, Napoli, 1907; Pigorini, *B. P.*, xxxiv, pp. 5-7.

miniature vases is also remarkable. They must have served some ritual purpose. Remains of large household vessels were also found. Some are pierced with a number of small holes, and were evidently used as strainers. A large bucket-shaped vase was reconstructed. All these vases are hand-made, of rather impure clay, incompletely cooked, and varying in colour from reddish to grey or brown tints. The ornament is of two types, relief ornament or incised ornament. The former consists of knobs or bands of clay, the latter marked at close intervals with the nail or fingertip of the potter. The latter consists of patterns formed of incised bands filled with points (fig. 209 *b, d, e, f, g*). The most striking figures are the spiral and the maeander. Originally the incisions and points were filled with a white substance now often lost.

c. Stone
objects.

Objects of stone are uncommon. A hand-mill, consisting of an upper and a lower stone, and two flint knives were the most important pieces found.

d. Bone
and horn.

Bones were shaped into borers and polishers. A shoulder-bone of an ox had been toothed to form a kind of comb. There were also two spindle-whorls of stag's-horn, one of which is in the form of a truncated cone.

Two objects similar in shape to this last, but made of terracotta, were judged to be the heads of ornamental hair-pins. Other objects of terracotta are a pierced disc and a large ring, both perhaps worn as pendants.

e. Bronze.

The only objects of bronze were an axe with flanged edges of *terramara* type, and a broken awl in a bone handle.

f. Fauna.

The fauna includes the hare, wild cat, fox, dog, bear, pig, wild boar, ox, sheep, goat, stag and wild goat.

Problem
of the pile-
structure.

There is no possible doubt that this cave was inhabited by man at some period of the bronze age. The presence of a stream of water in the cave itself made it a desirable place for settlement, but necessitated the building of a pile-structure. This *palafitta* has been taken by some to prove that the people who built the lake-dwellings of North Italy descended into South Italy and settled at Pertosa, among other places. The mere use of piles is not sufficient to prove this. The excavator speaks as follows: 'This pile-structure,

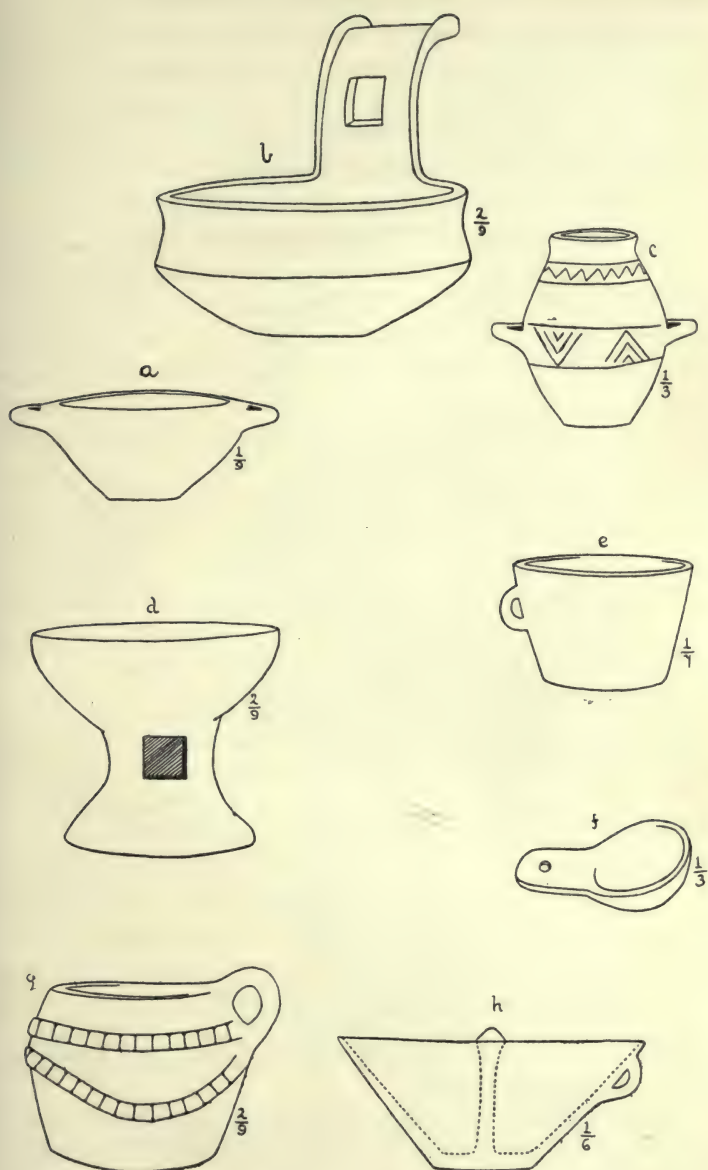


FIG. 210. Vases from the Grotta di Pertosa.

at the moment of excavation and observation on the spot, gave me the impression of a work carried out by people not accustomed to such tasks, who found themselves obliged to solve a new problem presented by the unusual conditions of the cave, and merely contented themselves with driving in piles in the roughest manner imaginable.' In other words,

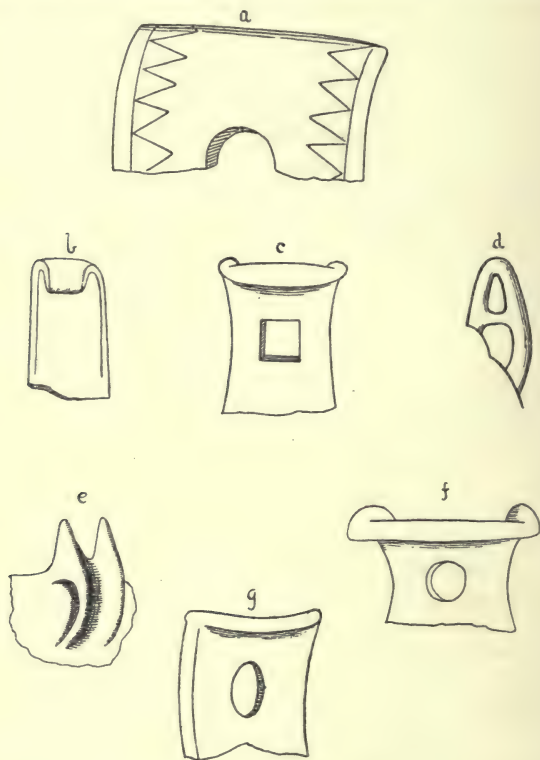


FIG. 211. Vase-handles of South Italian type.

the pile-structure is not an essential but an accidental feature of the settlement.

4. Grotta
del
Zachito.

Similar material to that of Pertosa was found in the Grotta del Zachito¹ close by (Map III, 157). Particularly interesting was the finding of lumps of clay lying on the stone slabs on which they were to be moulded into vases.

¹ *Atti Congr. Int.*, p. 221; *Archivio per l'Antropologia e l'Etnologia*, xxxiii, fasc. 2, pp. 197 ff.

But of far greater importance is the presence of remains of the camel, a beast which one would imagine can only have come from the South and by sea.¹

Similar remains were found in a neighbouring cavern, 5. Grotta di Frola. that of Frola, but the finds were few in number.

So far we have discovered that in certain parts of South C.Burials. Italy hut- and cave-dwellings were both in use in the bronze age, and though we cannot definitely assign both to one and the same people, it is highly probable that they were both due to the descendants of the old neolithic race which we believed to be spread over Italy. The most tangible fact is that in all these sites the same type of incised pottery is found.

Now although the burials connected with these sites have not yet been found, it is remarkable that there is one set of interments in South Italy which has yielded this same pottery. On the Murgia Timone at Matera (Map III, 153) lie several rock-hewn tombs containing inhumations. Indeed the whole Murgia is covered with remains of a most interesting character. Patroni² described these remains under the term 'The Siculan Village at Matera',³ a term which it is best to drop, as it has led to nothing but misunderstanding. They include several so-called hut-foundations, a trench apparently filled with refuse, and three rock chamber-tombs.

The 'hut-foundations' can be very quickly disposed of, 1. So-called hut-foundations are graves. as they are not hut-foundations, as Patroni supposed, but graves. They consist of a *cassetta* or case of squared blocks of stone containing the body and covered with a circular mound of rough stones. Both the Murgia Timone and the Murgecchia are covered with these mounds, which are similar to those examined by Jatta in Apulia,⁴ and belong like them to the iron age.

¹ See, however, Pigorini in *B. P.*, xxxiv, p. 8; *B. P.*, xiv, p. 65; Tav. XI.

² Patroni, *Un villaggio Siculo presso Matera nell' antica Apulia*, in *Mon. Ant.*, vol. viii.

³ Patroni attributed this 'village' at Matera to the Siculi of the mainland, who, he thinks, at a certain period passed in considerable numbers into Sicily, where they left the civilization of the Second Siculan period. This will be fully discussed elsewhere (Chapter XVII).

⁴ *B. P.*, xxx, pp. 32 ff.

2. The trench.

The trench has been traced along a rather winding course for 164 metres, with a width of 1.80 metres and a depth varying from 0.80 to 1 metre. It is hollowed in the surface rock and runs very close to two of the rock-chambers, though it is in no real connexion with them. The contents of the trench give no clue as to its origin. They do, however, prove that at some period a definite effort was made to fill it up, for they include, besides general refuse, several stones and masses of rock which must have been brought from a distance. Patroni thinks that the trench was most probably a road. The refuse includes a few rough flints, small knives of obsidian, pottery of the two types found in the 'huts', polished stone axes, and bone points. Patroni is certainly in error here. The trench must have the same object as those on the Murgecchia (see p. 107), which, as they were circular, can hardly be roads. Dr. Ridola, who first discovered the trench and examined a few metres of it, has long ago shown that it is earlier than the graves, whose stone circles in some cases lie directly over it. There are even now neolithic potsherds lying on its edge, among the earth extracted from it by Patroni.

Not a road.

3. The rock-tombs. Tomb I. Stone circle.

The rock-tombs so far published are three in number.¹

The most important of the graves (No. I) was marked on the surface of the ground by a circle of large unworked stones. The diameter of the circle is 6.65 metres. The tomb is entered by a roughly square pit hollowed in the tufa rather north of the centre of the circle. This pit is 1.50 metres deep and widens towards the bottom. It opens on its south side into a completely subterranean rock-chamber. This chamber is roughly 2.50 metres square with rounded corners. The roof is irregular and dips slightly in the centre. In the floor a shallow pit has been cut, leaving a margin at the edges. The margin thus left forms a low stone bench. The line of symmetry of shaft and chamber lies north and south. In the shaft remains of twenty-two skeletons were found, with numerous objects of funeral furniture. Patroni, from considerations of space, thinks

Burial-chamber.

Skeletons in the shaft.

¹ Another rock-tomb on the same hill is shortly to be published by Dr. Ridola, its excavator.

that the bodies were deprived of the flesh before burial. The chamber had been much disturbed by moles and other animals, and it was impossible to ascertain the number of the skeletons. The funeral furniture was considerable.

Tomb II was marked above ground by two roughly concentric circles of large stone blocks. The shaft was cylindrical. Out of it opened two chambers, one to the North and one to the North-East. The former was roughly rectangular with rounded angles. The latter was trapezoidal with a column left in the centre to support the vault. Both chambers had apparently been rifled, and contained only a few bones and potsherds. The trapezoidal chamber was probably a later addition to the original tomb.

Tomb II.

The burial-chambers.

The third tomb, first discovered by Dr. Ridola, is of curious construction. Its shaft was not sunk in the rock, but use was made of the already existing trench described above. The chamber was opened off the north side of the trench and two small walls were run across the trench to East and West of the opening, so as to make a kind of square shaft. The usual circle of stones marked the grave above ground. The rectangular rock-chamber had been rifled. The objects said to have been found in this tomb, however, still exist, but give rise to great difficulties, as they are of much later appearance than those of the other tombs.

Tomb III.

Tomb I yielded several objects of bronze. These included rings, simple and spiral, buttons, and a dagger. There were also globular beads of a green or blue glass-paste, undoubtedly imported, others of a resinous substance, not amber, and finally two of rock-crystal. Flint flakes were common, but finished implements were almost entirely absent. Among various ornaments may be noticed two discs of bone, a pierced boar's tusk, and a few sea-shells.

Objects found.

The pottery from this tomb, identical indeed with that in Tomb II, is all of one type, the brown ware found in the 'huts'. The red ware of the 'huts' is absent from the tombs. These vases of brown clay are hand-made, incompletely cooked, and polished on the surface. The brown often reaches a grey-black tint. Chiefly to be noticed

Pottery.

are the tongue-handle (cf. fig. 211), and the occurrence of the punctured-band decoration in incised work.

The objects said to have been found in Tomb III include several fibulae of the broken-backed form. This is not a bronze age type at all, and if the tomb really contained these fibulae the burial deposit must, in part at least, belong to the iron age.

The
burial
rite of
South
Italy.

We have now ascertained that the burial-rite of the bronze age in South Italy was at least in some cases inhumation. Further than this we cannot go, and it must be remembered that the existence of the rock-tomb in place of the old neolithic trench-grave is not free from difficulties.

Incised
pottery
common
to all
sites.

In all the varying sites we have described there is, however, one element which is constant, and that is the incised pottery. We must therefore follow up this clue in the hope that it may lead us to more tangible results with regard to the bronze age people of South Italy.

Its orna-
ment.
Technique.

The most striking feature about this South Italian pottery is its ornament. This consists generally of incision and puncture. The ornamental element is usually drawn in with two parallel lines and the space between filled with points. Both the incisions and points are in most cases filled with a white paste, which enables the design to show up clearly on the black ground. The ornament sometimes covered the whole vase, sometimes was arranged in horizontal bands. The most favourite designs are the spiral, maeander, rhomboid, chessboard pattern and dog-tooth. Examples are given in fig. 209.

Designs.

Distribu-
tion.

This pottery is found in the caverns of Pertosa and Zachito (Salerno), in the Grotta delle Felci in the island of Capri, and in the Grotta Nicolucci near Sorrento, in the underground rock-tombs at Matera, in the *terramara* at Taranto—where it is doubtless imported—and at Coppa della Nevigata. Further up the Adriatic we find it in the Vibrata Valley, at Toscanella Imolese, at Trebbo Sei Vie (one fragment), at Porta Saragozza in Bologna, in the Farnè cavern, and at Bertarina.¹

Date.

The date of this ware is not difficult to fix. Its occurrence

¹ It is, however, very rare in sites north of the Vibrata.

in the *terramara* at Taranto (see below) shows that it was in use late in the bronze age. In the neolithic settlement beneath the *terramara* it is absent. In the Vibrata Valley it is more difficult to date, but it probably belongs to the *early* bronze period. I have been unable to find any certain neolithic examples, and I therefore attribute it to the bronze age as a whole.

It seems improbable that this pottery, which continues to be found in site after site, should be wholly imported. Nor does it appear to be a development of the Stentinello ware of Sicily and South Italy, for, in the first place, it does not occur in Sicily; in the second place, the technique is utterly different; and in the third place, we know that Stentinello ware was succeeded by something quite different, viz. dolmen ware.

Not a development from earlier ware.

We must therefore ask whether foreign influence was accountable for the rise of this ware in Italy.

The type of ornament found on these vases has suggested various parallels. In comparing types of ornament it is not sufficient to compare the mere technique; what ought to be compared is the general spirit of the ornament. If we chose to regard the ornament in question as merely a series of designs worked out in points and bordered by lines, the cavities being then filled with a white substance, we may find several parallels in the Mediterranean. But to parallels based on such general definitions we must not give more value than they deserve. For instance, we may compare this ornament with that of predynastic Egypt¹ or of the neolithic age at Knossos.² In both these cases there are certain similarities, but the general impression given is very different. Above all, we notice the absence in both cases of the spiral and the maeander which are so essential to the South Italian pottery.

Parallels.

Criterion for a true parallel.

Egypt and Crete.

With regard to the spiral on incised ware we may speak with certainty both for Egypt and Knossos, in the latter of which it does not appear until Early Minoan times.³

¹ *Diospolis Parva*, 1898-9, frontispiece and Plate XIV.

² *J. H. S.*, xxi, pp. 78 sqq.; xxiii, pp. 158 sqq., and Plate IV.

³ *J. H. S.*, xxvi, p. 259. As for the maeander there is, as far as I know, no example in the Egyptian incised series. In the Candia Museum there is a

Spain and
Troy.

Similarly we may compare our Italian ware with that of Ciempozuelos¹ in Spain or that of Hissarlik.² Again we get certain resemblances, but the same difference of spirit. In fact the most that we could argue would be that even if we could assume the examples of Egypt, Crete, Spain and Troy to belong to one widespread family of neolithic ceramics, then the South Italian ware might be a remote descendant of that family. At the same time, we should be on our guard against setting too much store by the fact of the white-filling, a technique which appears in various places at various dates. In Egypt itself this white-filled ornament appears, besides in the predynastic period already mentioned, in the third, twelfth, and thirteenth to seventeenth or eighteenth dynasties.³

White-
filling no
criterion.

Not of
Cretan
origin.

At Knossos the particular variety of this incised work which we have called 'punctured-band work', only occurs near the top of the neolithic deposit. It seems to be a direction which this technique took only in its later stages. Now at the beginning of the period called Early Minoan I in Crete incised work practically dies out, the punctured-band technique completely so. So that unless we can suppose this technique to have reached Italy before the end of the Cretan neolithic period, we must not attempt to explain the Italian series from the Cretan. At present we have no examples in South Italy which can be dated so early as this, and, what is more, the total absence of the ware in Sicily⁴ speaks against direct derivation from Crete. And finally, had the technique come from Crete in neolithic times, how explain the spiral and maeander, which in Crete were, to judge from present evidence, unknown at the time?

Bosnia
and
Servia.

We are thus left to ask whether there is any other example of this style of decoration with which we may institute

fragment from Knossos bearing part of a pattern which may possibly have been a maeander, though Dr. Mackenzie doubts it.

¹ *Boletín Real Acad. Hist.*, vol. xxv; *Zeit. Eth.*, 1895, p. 119.

² Dörpfeld, *Troja und Ilion*, vol. i, p. 251.

³ *Diospolis Parva*, p. 14.

⁴ There is one fragment from the Trapani district, now at Palermo. It shows a white-filled maeander, but the absence of further details as to its finding makes it scientifically valueless.

comparisons. The answer comes at once if we turn to the Balkan peninsula. At Butmir, near Serajevo, and at Jablanica in Servia,¹ and elsewhere in the same district, we have pottery of the same type. The specimens from Butmir² in particular are remarkably similar to those of Pertosa and Matera. This time we have no mere resemblance in technique, but the spirit of the design is the same in both cases. No one can examine the Pertosa examples without being struck by the curious combination of rectangular and curved design, e.g. the spiral and maeander, which sometimes occurs on the same sherds. Now this combination is typical of all the early pottery of the Balkans. It is noticeable in the painted ware of Sesklo and Dimini³ in Thessaly, and in that of the mounds of Bulgaria.⁴ In both cases the most prominent feature of the design is the wonderful skill shown in the interweaving of the rectangular and the curved, especially the maeander and the spiral. It is scarcely time as yet to hazard any view as to the relations, chronological and otherwise, between the incised and the painted wares of the Balkans.⁵ What must be insisted on here is the close analogy between these Bosnian and Servian wares as a whole and those of South Italy. How then is this analogy to be explained, and in what relation to the Balkan wares are we to place the South Italian series? Everything seems to point to its being slightly later in beginning than that of Butmir. In Italy we have no undoubted neolithic examples. I would therefore suggest that the Italian ware is derived directly from the Balkan. Not that the specimens we possess are necessarily imported. The original models were imported and the style was imitated and developed in Italy itself.

Close resemblance of Italian and Bosnian ware.

Combination of rectangular and curved design.

Italian ware slightly later than Bosnian. Probably derived from it.

A visit to Belgrade confirmed these ideas as to the Balkan origin of this pottery. At the museum Dr. Vassits showed me card after card of incised ware—as yet unpublished—

Servian parallel.

¹ Vassits, *Die neolitische Station Jablanica*.

² Radimsky and Hoernes, *Die neolitische Station von Butmir*.

³ Tsountas, *Αἱ προϊστορικαὶ Ἀκροπόλεις Διμηνίου καὶ Σέσκλου*.

⁴ *Revue Archéologique*, 1901, p. 328; *Bulletin de Correspondance Hellénique*, 1906, p. 360.

⁵ See *Classical Review*, for Dec., 1908.

from Servian sites. Almost every sherd reminded one of some Italian example, and it may be added that here white-filling, not seen at Butmir, was almost invariable.

Trade
across the
Adriatic.

We have elsewhere seen that at a very early period there was a considerable trade carried on across the Adriatic, and that painted pottery was, in the late neolithic age, imported from the southern Balkans into South Italy. This trade probably did not cease with the neolithic age but continued to introduce into Italy the pottery of the Balkans, no doubt at various points of the coast.

The view here proposed, namely, that this pottery had a Balkan origin, is confirmed by its distribution, which includes the whole of the Adriatic slope from Bologna down to Taranto.

Colini's
view.

This view concerning the origin of the incised ware of South Italy partly falls into line with that expressed by Colini.¹ 'It seems to me,' he says, 'reasonable to suppose that this industry in South Italy, so remarkable for its ornamental motives, was developed among the neolithic peoples or their descendants, under the influence, direct or indirect, of the eastern civilizations where those elements had their origin.' This I should accept almost unaltered, but I think we can now be more precise. The influence under which these people developed this style was the direct influence of the western Balkans. Originally this style may have been an import, even in the Balkans, though it is improbable, but with that we are not concerned; in this case the movement which brought it to Servia and Bosnia did not affect Italy, which only received as it were a kind of backwash from this direction.

Spiral
orna-
ment.

With this incised ware is occasionally found relief-ornament. Thus at Pertosa we have a spiral in relief, and there is a similar fragment from the Pulo of Molfetta. In Italy the spiral is virtually confined to the class of South and East Italian incised ware, until after the end of the bronze age. Examples occur at Pertosa, Matera, Molfetta, Bologna (Porta Saragozza), Prevosta, Farnè and the Vibrata Valley.

¹ *B. P.*, xxix, p. 98.

Another example occurs in the hut-foundations of Campeggine, not necessarily early neolithic, and another incised on a piece of horn in the *terramara* of Gorzano. The maeander too, except among this pottery, is unknown in Italy until the end of the bronze age, when it appears in the Veneto.

But it may be asked whether no vase forms can be associated with this type of ornamentation. It is a striking fact that both at Matera and Pertosa we find the ladle or basin with a high vertical tongue-handle. Examples of this have been given in figs. 210 *b* and 211. Now this handle is apparently very early in South Italy, as is shown by certain examples at Matera.¹ It was, however, adopted by the *terramara* folk at Taranto, for it is very common there, and it is always in the same technique as the rest of the *terramara* pottery, besides which it takes many varieties of form. In this *terramara*, too, it is associated with punctured-band ware, and the same fact is to be noted in the Grotta Salomone in the Vibrata Valley. Thus we may assert that in South Italy the tongue-handle, although not necessarily having the same origin as the incised ware, usually accompanies it.² Now in the huts of Castellaccio in North Italy we find a similar handle without a hole, and in the cave of Farnò occurs not only this form but also the more developed form with the hole. It may be added that the simpler form occurs at Manfredonia in South Italy (Bologna Museum).

This handle therefore occurs both in North and South Italy in connexion with punctured-band ware, and we may conjecture that it was a product of the same people. It was, however, an earlier product. At Matera it occurs in late neolithic sites, where incised ware of the type in question was wanting, and it lives on at Matera until the bronze age, being found together with incised ware in the rock-hewn graves. This confirms the idea that the incised ware is due to the neolithic people in a more advanced stage of civilization.

The clue afforded by the South Italian pottery has thus

¹ Now in Dr. Ridola's museum at Matera.

² See Colini in *B. P.*, xxxiii, p. 122.

Conclu-
sions.

a. Bronze
civiliza-
tion in
South
due to
old neo-
lithic
folk.

b. Trade
with the
Balkans.
History of
this trade.

not been followed quite in vain. It has led us to two conclusions. In the first place, it is probable that the bronze age remains found in South Italy are due to the descendants of the neolithic inhabitants of the country. In the second place, it is almost certain that these people were connected by trade with the people who then inhabited Bosnia and Servia.

This connexion with the Balkans had begun long before the bronze age, and probably lasted throughout it.

In the neolithic age we have sherds of painted pottery at Molfetta and Matera which were certainly imported from somewhere in North Greece or Thessaly. In the early bronze age we have along the whole Adriatic slope of Italy this incised and punctured ware, which seems to have its origin in Balkan models. In the later bronze age we have the fibula and Naue's Type II sword, which are probably of Balkan origin.¹ Finally at Marendole, Toscanella and Coppa della Nevigata¹ we find handle-forms (beaked and crested) known in the North-East Adriatic. All this tends to show that the Adriatic was in early days, like many other seas, not an obstacle but an assistance to commerce and development.

II. THE
TERRA-
MARA
ELE-
MENT.
Influence
disting-
uished
from
immigra-
tion.

A. Terra-
mara
influence.
Bronzes
of terra-
mara
type.

Our survey of the native element in South Italy is now complete and we are free to examine the foreign or *terramara* element. Two questions arise. Firstly, how far did the influence of the *terramara* civilization affect South Italy, and secondly, did any of the *terramara* folk actually immigrate into South Italy?

Let us first take the question of *terramara* influence. It is remarkable that the few bronzes known to us from sporadic finds in South Italy are all of types usual in the *terremare*. Thus in the Abruzzi the earlier part of the bronze age is, as in the Marche, represented by the axe with flanged edge and the triangular dagger with hilt of metal. At Camposacro, in the *comune* of Loreto Aprutino, were found in 1862 more than ten of these daggers, made of bronze, and in some cases bearing the fine incised work

¹ See later in the chapter.

so usual in the North Italian examples,¹ while at Trani, near Bari, was discovered a hoard of axes with flanged edges. Similar weapons occur sporadically in various parts of South Italy, and in the Abruzzi they are particularly frequent. Among the daggers are some of the broad type with rounded base, a shape really belonging to the eneolithic period. Others are of the true *terramara* forms, some with the flanged hilt.

The winged axe of the *terremare* is also represented, while sickles of *terramara* form were found at Ortucchio (Aquila) and Controguerra (Teramo).

Now as these forms are not Aegæan at all we are tempted to believe that the *terramara* folk, possessed as they were of an advanced knowledge of bronze-casting, set the fashion, so to speak, to the rest of Italy and that their bronzes penetrated as far even as South Italy and were copied there.

So much for *terramara* influence. But can we prove immigration ?

For some years Pigorini has suggested that towards the end of the bronze age the *terramara* folk partly abandoned the Po Valley and that some of them penetrated to South Italy. This hypothesis was supported by three instances of burial in South Italy where, in place of the old neolithic rite of inhumation, the *terramara* practice of cremation was thought to have been employed.

The first of these burials was found at Nocera de' Pagani (Salerno), (Map III, 158). A tomb belonging to the bronze age was found about fifty years ago.² Brunn, in his report, says that it contained various knives and daggers of bronze and 'a long piece of flint shaped like a knife'. Oddly enough, he forgets to tell us whether the remains were cremated or inhumed. Three of the daggers were of the broad triangular type with bronze handle, similar to that found at Parco dei Monaci.

The bronzes of this grave are indeed of *terramara* types, but as we do not know whether the burial was a cremation or not we cannot infer the presence of the *terramara* people.

¹ B. P., ii, pp. 50-1.

² *Bullettino dell' Istituto*, 1859, p. 65; B. P., xvi, p. 144; xxix, p. 85.

B. *Terramara* immigrations into South Italy. Pigorini's theory. Cremation in South Italy.

1. Nocera de' Pagani.

2. Parco dei
Monaci.

Some years later, however, another tomb containing typical *terramara* bronzes was found at the Parco dei Monaci (Map III, 155), near Matera. The tomb has, despite its great importance, never been published in full. I cannot even find a definite statement as to the nature of the burial rite. Quagliati speaks as follows with regard to this tomb.¹ 'Doctor Ridola assured me that the three objects were found together in a rectangular trench-tomb hollowed in the tufa of the Parco dei Monaci, together with fragments of a *cinerary urn* and of at least two other vases.' From the mention of an ossuary one would presume cremation, though it is not stated explicitly.² But in that case why is the tomb rectangular?

The objects of metal are a leaf-shaped dagger of copper or bronze; a triangular dagger with metal handle, of North Italian type, probably of copper; and a flanged axe of copper.

The absence of definite information as to the nature of the burial rite quite invalidates any evidence this tomb might have given as to the presence of *terramara* folk.

3. San
Benedetto.

At San Benedetto in Perillis (Map III, 151) (Peligni), it is beyond question that a cremation-burial was found. To prevent misconception I quote the report in full.³

'At Campo Rotondo the graves discovered were constructed of tiles and lay in the valley, but at Colle Brignile, on high ground, in land belonging to Messrs. Centi, of Aquila, the tombs were made without tiles. One discovered last year contained a *cinerary urn* which was broken. The fragments which I saw are of badly-fired clay, half black, half reddish. No object lay among the burnt bones. Slightly above the ossuary, about 20 cm., lay horizontally a bronze sword of length 0.65 metre and breadth 0.07 metre.' This sword is of the type of figure 175 and is quoted by Colini as belonging to the bronze age. The report is, of course, quite inadequate, but it is clear that most of the burials in the locality belong to the iron age. It is thus probable

¹ B. P., xxii, p. 289.

² I found at Matera that the peasant who dug the grave spoke of a large vase but did not mention burnt bones. He found no traces of a skeleton.

³ *Not. Scav.*, 1892, p. 485.

that the one in question is of the same period, and that it is the grave of an *Italico* who, dying among strangers, was buried in the fashion of his race. In any case the grave is but poor evidence for the presence of *Italici* in the true bronze age.

Thus of the three graves which might have been taken to prove the presence of the *Italici* or *terramara* folk in South Italy, two are not proved to be cremations and the third probably belongs to the iron age. If a *terramara* immigration was to be proved new and better evidence had to be produced.

This evidence came at last in 1899 when Quagliati discovered a *terramara* at Taranto¹ (Map III, 154). It lies to the North-West of the city, not far from the gates. Over a surface of rock, now being quarried for building purposes, lay 2 metres of soil and deposit, mostly the refuse of human habitation. In this three strata were distinct. The upper stratum contained remains of huts, with Mycenaean and proto-Corinthian pottery, and a figurine of the usual Mycenaean female type. Below this lay the *terramara*, and below that again a neolithic deposit containing hut-foundations with stone hearths, potsherds, and refuse of flint- and obsidian-working.

The middle stratum was very carefully examined. It soon became evident that this stratum contained the remains of a pile-structure. The remnants of a large wooden platform were unearthed, covered with a flooring of trodden clay and supported beneath by a number of piles varying from about 10 to 35 cm. in diameter. In parts this pavement was covered with masses of sun-baked clay, evidently the remains of huts. Careful excavation succeeded in revealing five huts built upon the platform. The second hut, which gave the most complete results, was rectangular with an out-curving wall or apse at the west end. At the east end was a small portico, and, adjoining it, in the north-east corner, a kitchen. The rest of the house formed one large room 15.50 metres by 5 metres. The walls of this room could still be traced, though little remained

These graves do not prove *terramara* immigration.

The *terramara* at Taranto.

The strata
Upper stratum.

Middle stratum.

Pile-structure.

Huts.

Hut II.

¹ *Not. Scav.*, 1900, p. 411.

in position. They are of branches, twigs, reeds and leaves, covered inside and out by a coating of clay. The roof, of similar construction, appeared from the markings on the clay fragments to have had a central longitudinal beam and to have sloped on either side. Around all sides of the hut except the east front, where lay the portico, ran a bank of pure clay, 3.60 metres broad, and rising 30 cm. from the platform. Quagliati supposes either that this bank served to drain off the water from the roof, or that its entire edge marked the limit of the house taken in the larger sense. In the kitchen were found the hearth-stones and numerous remains of cooking, together with an earthenware stove. This last was bucket-shaped, covered in with a clay top pierced with holes, and had a square opening in the side, near the bottom. Remains of two similar vases were found in the hut.

Lower pile-
structure.

Beneath the floor of this hut, and at a depth of about half a metre from it appeared the remains of another platform supported on piles, showing that at some period the structure had been rebuilt and the level raised, just as in the North Italian examples.

The
defence
works.

Quagliati was able to determine the exact nature of the defences of the *terramara*. On the west side, which ran north and south, he found a moat, wall and buttress. The moat was roughly 5 metres broad with a depth of 3 metres from the surface. It was in part hollowed in the soft rock. Outside it, curiously enough, ran a rough wall of limestone set without mortar. It was 5 metres broad and nearly 1 metre high. Its purpose must have been to increase the depth of the moat. Within the moat lay the rampart. This consisted of a nucleus of large stones, not in courses, covered with clay and with the tufa-refuse acquired in digging the moat in the rock. Behind the rampart lay the buttress or *contrafforte*, of unworked limestone carefully laid in courses. This buttress was almost a metre high and 2.70 metres in breadth.

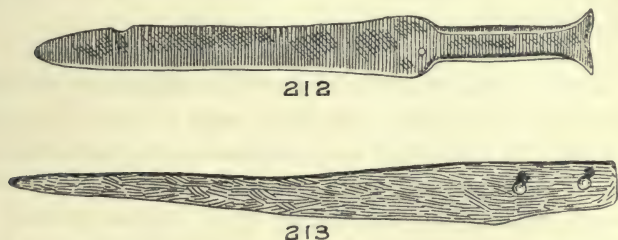
The
streets.

Finally, the *decumanus* or east-to-west road was discovered. Its breadth was about 2 metres.

Bronzes.

The bronzes of the *terramara* are of remarkable interest.

The double razor, the violin-bow fibulae, the winged axe and the sickle can all be exactly paralleled in the *terremare* of Emilia. But the dagger with bronze hilt with raised edges is not a *terramara* type, although a few somewhat similar forms have been found in the *terremare*. The Tarentine example (fig. 212) is very similar to an example from the Knossian cemetery.¹ The one-edged knife of Taranto (fig. 213) is another form which is unknown in the earliest *terremare*. It occurs both at Mycenae (not in the shaft-graves) and at Knossos in the L.M. III cemetery.² This form perhaps originated in the Balkans and only reached North Italy in its developed form, concavo-convex and generally with a socket. There is, therefore, a strong



FIGS. 212 and 213. Bronze knives, Taranto. Scale (212) $\frac{3}{4}$; (213) $\frac{1}{4}$.
(After Quagliati, *Not. Scav.*)

probability that these two bronzes were imported. The fibulae need not be imported at all, and, if they are, it is by no means certain that they came from Mycenae, as is sometimes asserted.

Connexions with the Mycenaean world are generally considered to be demonstrated by the finding in the *terramara* of a clay idol, supposed to have been imitated from a Mycenaean type.³ It is true that this figure is not a close copy of either of the usual Mycenaean forms, and that no Mycenaean idols or pottery were found except in the stratum above this. It may, however, have been suggested by, even if not actually copied from, a Mycenaean example. At the

Mycenaean
connexions

¹ Evans, A. J., *The Prehistoric Tombs of Knossos*, fig. 90.

² *Op. cit.*, fig. 71.

³ Quagliati in *B. P.*, xxvi, p. 287, fig. 2.

same time, in view of the close connexion of Italy with the Balkans, where such figurines were common, it would be well not to decide too hastily.

Incised pottery. The other remarkable feature of this *terramara* is the occurrence there of several pieces of the incised and punctured pottery of South Italy. This was certainly imported, probably from the surrounding country.

Terramara ware. It is worthy of notice, too, that although some of the ordinary ware was a black *bucchero* which seems identical with that of the northern *terremare*, much consists of a finely polished red ware, wholly unknown in the North. The same vase sometimes shows red and black in patches. The crescent handle is not uncommon but is simple in form, and never shows the fantastic developments seen in the North Italian *terremare*.

The discovery proves terramara immigration. Since this discovery at Taranto I doubt whether any archaeologist will venture to question Pigorini's statement that towards the end of the bronze age a body of *terramara* people left the Po Valley and marched southwards as far as Taranto.¹ The complete similarity in form of the Tarentine *terramara* with those of North Italy seems to put this beyond all doubt. This was only part of a greater movement, says Pigorini, in which these people pressed down into Latium and Tuscany, where they developed the civilization of the early iron age.² This last statement I leave undiscussed as it belongs to a later period. But of the invasion of the South there is no doubt. We have another proof of it in the cremation necropolis of Timmari,³ which, though slightly later than the Taranto *terramara*, shows the presence of the same race at the moment of the transition to the iron age. It is possible that this invasion left signs as it passed at Offida (see p. 389), and that Coppa della Nevigata belongs to the same context. On this point, however, one must reserve judgement until the sites have been properly excavated and published.

On the ground of the advanced type of the bronzes at

¹ *B. P.*, xxvi, p. 21.

² *Not. Scav.*, 1888, p. 240.

³ *Mon. Ant.*, vol. xvi, Part I; *Not. Scav.*, 1900, p. 345.

Scoglio del Tonno Pigorini assigns this invasion from the north to the end of the bronze age. This is no doubt approximately right, and, at a time when I had only seen the Tarentine material in Rome, I accepted the view as it stood.¹ Representative selections, however, are always perilous, as they never give the proportions of types to one another. Thus a visit to the museum at Taranto brought out two facts which were not evident at Rome. In the first place, a large proportion of the pottery is polished red ware, and, in the second place, two unusual types of handle not only occur but are very common, viz. the tongue-handle and the handle with raised edges (fig. 211 c, e, f and g). Now in the northern *terremare red* polish does not occur, and both these handles are absent. What is more, both are known to be South Italian forms, the tongue-form being common in almost all deposits containing South Italian punctured ware, and the other occurring in the Grotta del Diavolo. It is true that a kind of tongue-handle was found in the *terramara* of Gorzano,² but it is unique, and moreover not of true southern form. At Taranto these handles take varying forms and look as if they were thoroughly understood by the potters. Moreover, the clay and polish show that they are not imported. Therefore they must have been adopted by the *terramara* invaders from the natives of South Italy. The same is probably the case with the red ware. I question whether these native elements could have been so thoroughly assimilated by the invaders except in the lapse of a considerable time. Besides, the opening of trade relations with the Aegæan was probably not the work of a moment. We may therefore suppose that these people had inhabited South Italy for some little time previous to the abandonment of the *terramara* at Taranto. Whether they came early enough to account for the grave of Parco dei Monaci with its early bronzes is hard to say, as we have so little exact evidence for the chronology of *terramara* bronzes.

Pigorini is inclined to estimate the influence of the terra-

¹ B. S. R., iv, p. 285.

² Coppi, *Terramara di Gorzano*, 1871; Tav. XXX, fig. 35.

Terra-
mara in-
fluence at
Pertosa. *mara* folk as very powerful. He attributes to their influence the building of the pile-structure in the Pertosa cave, and gives to it a ritual significance. If I understand him rightly, he thinks that the cave was not a dwelling but a centre of worship. It is certain that some of the Pertosa pottery is suspiciously like that of the *terremare*; the ritual vases, the basin on a high stem, the large bucket-vase, the strainers and the cups, all remind one of North Italian examples. Simple *anse lunate* have also been found.

Direct
terra-
mara
Influence
never
very
strong in
South
Italy.
New
evidence. On the whole, I still uphold what I attempted to show two years ago,¹ that direct influence of the *terramara* people in South Italy was never very strong, and had no very lasting effect there in the iron age, though during the later bronze age they had a considerable colony at Taranto.

Coppa
della
Nevigata. But even since the discovery of the *terramara* at Taranto fresh evidence on this question has been produced. In the newspaper *L'Oggi*, published at Bari, on May 3, 1905, was described by Jatta the finding of a settlement of the bronze age at Coppa della Nevigata (Map III, 152), at the foot of the Gargano, between Manfredonia and Fontanarosa. This settlement was attributed by Jatta to the *terramara* folk who penetrated into South Italy. The material, partly at Naples, partly at Rome, includes a bronze pin, plain bronze arm-rings, and a bronze one-edged knife with the handle cast in the same piece. The pottery, some of which was ornamented in the South Italian punctured-band style, includes a number of small ritual vases, one of which contained wheat, and a number of larger vases or their fragments, with very varied handles. Some of these were *anse lunate* of simple types. There also occurred the tongue handle (*a nastro*) and the beaked handle of Marendole and Toscanella (cf. fig. 207), and several other forms unknown to the *terremare*. In the same stratum—so far as I can ascertain—with these objects were found fragments of Mycenaean pottery (L. M. III), and also of a geometric painted ware which seems new. There are certainly *terramara* elements in this station, and it is said that it was defended by a rampart.

Mycenaean
ware.

¹ *B. S. R.*, iv, pp. 283 ff.

To some this discovery may appear to simplify the South Italian problem. In reality it complicates it. Even if the theory of an immigration of *terramara* folk can explain all the facts noted at Taranto it cannot explain all those of Coppa della Nevigata. The pottery of the latter station in particular strikes one by its divergence from, rather than its likeness to, that of the *terremare*. This divergence lies, of course, partly in the presence of red polished ware and of South Italian incised ware. But in addition to this there are large numbers of handles at Coppa della Nevigata which are foreign to the *terremare*, and which moreover are some of them common in Bosnia, in the pile-dwellings of Donja-dolina and Ripač, at Debelo-Brdo, and elsewhere. We may instance the bilobate handle, two distinct forms of the beaked handle, and the plain vertical ribbon-type with a rectangular projection above. Moreover, the crescent or horned handles are of precisely those forms which occur in Bosnia, though, unfortunately, no contemporary lake-dwelling has yet been dug there. Unless these similarities are mere accident we must suppose either that these handles were common to South Italy and Bosnia in early days and were adopted from the earlier inhabitants by the *terramara* folk when they descended, or that these people when they arrived there established connexion with Bosnia, or that they came not from North Italy at all but from Bosnia itself. In the light of present knowledge it would be foolish to adopt definitely any of these three hypotheses. In the meantime none of them can be rejected, not even the last, fanciful though it may appear. Scientific excavation at Coppa della Nevigata, with careful attention to stratification, might do much towards solving the problem.

Difficulties raised by this discovery.

Pottery of Coppa della Nevigata closely paralleled in Bosnia.

From the sketch we have given of the bronze age in Central and Southern Italy it might perhaps be inferred that the trend of this civilization was completely determined by the influence of the pile-dwellers in North Italy. This is not entirely the case. In the eneolithic period trade relations with foreign parts, especially the Aegæan, had existed. These seem to have continued in the bronze

Foreign influences in South Italy.

Foreign
bronzes.

age, for we find bronzes of this period which were quite certainly not introduced by the *terramara* folk.

The hal-
berd of
Monte-
merano.

The halberd of Montemerano¹ in Tuscany, is one of these (fig. 208). The distribution of the halberd as at present known includes Spain, the British Isles, Prussia and Scandinavia. There is, in the British Museum, a halberd said to have been found near Cremona, but it resembles the Irish examples so closely that its Italian origin is extremely doubtful. Montelius claims that the representation of the halberd is to be found among the rock-engravings of Liguria,² but on this point it is impossible to be quite certain.

Of the known examples the Tuscan halberd bears most resemblance to those of Spain and may well have been imported from that country. It is not known in the lake-dwellings or *terremare*.

Halberd
ofCologna
Veneta.

In the museum of Este is a halberd of which fig. 214 is a sketch. It has a strong rib down the centre and was fitted obliquely on to the staff. It was found on the Trestini farm in the *comune* of Cologna Veneta. With it was found part of a dagger of primitive and unusual type, which probably dates the find, like that of Montemerano, to the early part of the bronze age.

Fojano
dagger.

At Fojano (Val di Chiana, Tuscany) was found a dagger which has no exact parallel in Italy (fig. 215). It is of copper, 23 cm. in length, with a very slight rib, and is roughly triangular. The heel is trapezoidal in shape and has two rivet-holes on each side. Colini quotes parallels from the eneolithic cemetery of Sagh-el-Baglieh in Egypt, and from a hoard at Guttidai in Sardinia, where it was associated with flanged axes. The form has more affinities with those of the eneolithic period in Italy than with those of the bronze age, but it may well belong to the beginning of the latter period. Even if it were with certainty known to be imported it would be impossible to guess at its provenance.

To this must be added a flat copper celt from near Siena.³

¹ *Not. Scav.*, 1907, p. 669, fig. 3.

² *Die Chronologie der ältesten Bronzezeit*, pp. 205-8.

³ Now in the Museo Preistorico at Rome

It has an almost rectangular outline, with two projections, one on each edge, near the middle (fig. 216). These no doubt served for hafting the celt. That they were not in the nature of a stop-ridge is shown by the fact that in some examples they are not both at the same level. Other examples occur at Caltanissetta in Sicily, and near Catania, also at Abini in

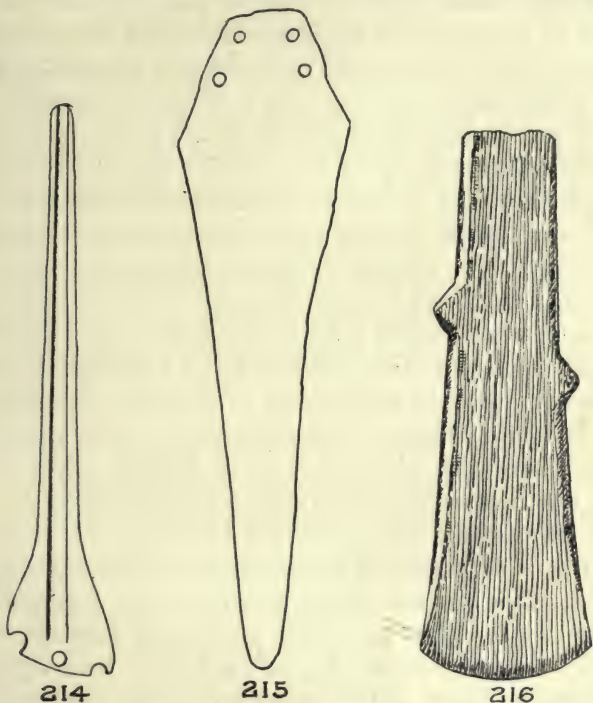


FIG. 214. Bronze (?) halberd, Cologna Veneta. Scale $\frac{1}{2}$.

FIG. 215. Dagger from Fojano. Scale $\frac{1}{2}$.

FIG. 216. Flat celt with side projections, Siena. Scale c. $\frac{1}{2}$.

Sardinia and Allumiere in Latium. There is a further specimen in the museum at Turin. This type of axe is found in places as widely separated as Ireland, Granada in Spain, Dodona, and Heldersleben in Central Europe, though the shapes vary locally.

In the same deposit with the halberd of Montemerano was found a dagger with three ribs down the centre of the blade.¹ This, again, is not a *terramara* or lake-dwelling type.

¹ *Not. Scav.*, 1907, p. 669, fig. 3.

It does, however, occur in the so-called Mycenaean graves of Ialysos in Rhodes, though the example is a sword rather than a dagger. It may thus be of Aegaeon origin.

These examples seem to show that certain influences were acting on the west coast of Central Italy at the beginning of the bronze age which were not due to the pile-dwelling folk of the North.

Later im-
ported
bronzes.

The
fibula.

None of the weapons we have examined, however, takes us into the later bronze age. Can we find bronzes of a later period which prove a similar case? The most important are two: the violin-bow fibula and the sword with a wide bronze tang with raised edges. It is generally suggested by Italian archaeologists that the fibula was imported into Italy from Greece, and that it reached the *terremare* round the North of the Adriatic, i. e. via the Balkans. This seems to be very doubtful indeed. It is true that the fibula is found very early in Mycenae, but it is at a period when the influence of the future invaders (from the North [?]) was already making itself felt. There is no particle of evidence for supposing that the fibula originated at Mycenae or elsewhere in the Aegaeon, and from what we know of Aegaeon dress there is certain evidence against this view. The most widely accepted theory at present is that the fibula first appeared somewhere in the Balkans,¹ whence it spread on one side down to Greece and on another across to Italy. Even to the gold-plated fibula of Peschiera it is not necessary to give an Aegaeon origin, for this type of metal-work may well have been known in the Balkans. Thus it becomes very doubtful whether the violin-bow fibulae found in various parts of Italy need to be explained as due to *terramara* influence at all, and it seems equally probable that they were imported across the Adriatic and afterwards imitated locally.

Naue's
Type II
sword.

As to the sword, I have already mentioned J. L. Myres's view that it is of South Danubian origin. He points to its distribution in Italy, where it is found chiefly in the valleys of the Adriatic coast, e. g. at Montegiorgio, Arezzo, Ficulle, Aquila, Lakes Fucino and Trasimene and, in a rather different

¹ Cf. the early examples at Taline and Borik in Bosnia; *Mith. aus Bosnien und Hercegovina*, I, p. 88, fig. 90.

form, at Povegliano, and finally in Calabria and Apulia (Naue's specimen).¹ This distribution makes it probable that the form was imported across the Adriatic by the same current perhaps which brought the fibula.

Thus it is improbable that either the Type II sword or the fibula was the outcome of Mycenaean trade. That, however, Mycenaean trade did affect Italy in the later part of the bronze age we shall see in Chapter XIX.

For the present we may conclude that in the early part of the bronze age the dominant influence in Italy, as far as bronze-work was concerned, was the pile-dwelling folk. Even at this time, however, other and foreign influences were at work, though we can only trace them dimly by means of a few sporadically found bronzes.

¹ *B. P.*, xxii; *Tav. III*, fig. 3.

CHAPTER XVII

THE BRONZE AGE IN SICILY AND SARDINIA

IN Chapter IX we examined the civilization which prevailed in Sicily during the earliest age of metals, the age termed by Orsi the First Siculan period. We have now to treat the succeeding period, that known as the Second Siculan period, corresponding to the full bronze age in the island.

Second
Siculan
period.

The coast
settle-
ments.

The most important feature of the period is the rise of a number of flourishing stations on the south-east coast of Sicily, carrying on a lively trade with the great centres of the Aegæan civilization. In the interior, up the river valleys which end on this strip of coast, arose other settlements in many respects no less flourishing than those of the coast. To these as well as to the former we shall have to devote our attention.

Excava-
tions
limited in
extent.

But before beginning this task it will be well to premise that the civilization we are about to study must not be taken as typical of the whole island of Sicily. It is only in the south-east corner, Orsi's sphere of labour, that excavations have been made, and to assume that the same civilization prevailed elsewhere in the island would be totally unjustified.

A. The
coast
settle-
ments.

Position.

Throughout the range of history the Great Harbour of Syracuse has been famous for its safe anchorage. We can now go further back and assert that even in prehistoric times it was a trading centre of importance. Around its shores lay several settlements of the Second Siculan period. So far as we know, none of these lay actually on the site of the town of Syracuse, but one occupied Plemmyrium, and its graves were actually used for burial by the Athenians, during the siege. To the South of the harbour lay the settlement of Milocca or Matrensa, while to the West, on the edge of

the marshes, lay that of Cozzo Pantano. Thus round the great harbour were three settlements of this period. Another lay slightly north of Syracuse on the small island of Thapsos, and a fifth still further north at Molinello, close to the modern Augusta. South of Syracuse lay the settlement of Cassibile, which, however, was some slight distance up the river valley, and in several respects differs from the other stations of this group. Further south than this we find no sites, but it is clear that the trading-vessels rounded Cape Passero, for we find Aegæan imports on the south coast in the neighbourhood of Girgenti.

But we must now describe these sites more fully. The remains left to us consist in almost all cases of rock-hewn tombs. The burial-chamber itself is completely subterranean, and the entrance consists of a horizontal corridor or vertical shaft, according as the rock-face chosen for the tomb is vertical or horizontal. Type of the remains.

At Plemmirio (Map IV, 194) the grave is usually entered 1. Plem- by means of a trapezoidal pit or shaft.¹ At the bottom of this a small door or window leads into the burial-chamber, sometimes through a rough elliptical anteroom. The chamber itself is circular, with flat or *tholos*-shaped roof, and varies from 1·50 to 3·50 metres in diameter. Around it open a number of elliptical *nicchioni* or niches, often with rebated entrances. The floor of the chamber is much below the level of that of the pit, and the descent is facilitated by rough steps in the rock. Occasionally a rough bench cut in the rock runs round the wall. a. The graves.

It was impossible to form any safe estimate of the number of bodies in each sepulchre owing to later disturbances. b. Bodies.

The pottery has a grey surface and is incised in the manner typical of the period (cf. Thapsos). c. Pottery.

The bronzes included both the long 'Mycenaean' rapier (fig. 270) and the sword with concavo-convex edge. d. Bronzes.

An obsidian knife, beads of a resinous substance (not amber), of glass, bronze and bone, and a bone or ivory comb, were among the smaller objects. e. Other objects.

The use of a vertical shaft to enter the tomb at Plemmirio

¹ B. P., xvii, p. 116; *Not. Scav.*, 1899, p. 26.

was a natural consequence of the fact that the rock in which the graves were cut was horizontal, i. e. formed the surface of the ground.

2. Milocca. At Milocca¹ (Map IV, 195) we have the other type of tomb, cut in a vertical face of rock and therefore entered by a horizontal corridor. A single tomb had been discovered here as early as 1871. It was not, however, until 1898 that the sepulchre was scientifically examined by Orsi.² It proved to be a *tholos* or bee-hive tomb, entered from a vertical shaft at its side. Round half the circumference of the tomb ran the usual low bench of rock and in one side lay an elliptical niche. The skeletons were found lying with legs slightly bent up. The vases included two high-footed basins of local grey ware and two Late Minoan *amphorae*. The earlier of these (fig. 217) may just belong to the end of the Later Palace period (L. M. II),³ but the other is certainly L. M. III. A short sword with sharp point and central rib, slight tang and three rivets, rather recalls some of the weapons from the Knossian L. M. III cemetery (fig. 218).

Several other tombs of the same type were found close by, but all had been sacked. One, however, contained burials belonging to both the First and Second Siculan periods. The skeletons were about twenty in number and were laid in superimposed strata so that the highest nearly touched the flat vault. The upper bodies were accompanied by the pottery usual in the Second Period. But almost on the bottom was a sherd of painted ware of the First Period, while actually on the rock floor lay a few fragments of bronze ornaments, two flint knives, a pendant of limestone and three beads of blue glass-paste.

Thus the earliest burials in the grave must belong to the transition from the First to the Second Siculan period. This is proved by the combination of objects on the floor of the tomb, for while the painted sherd excludes the Second Period, except its very beginning, so the bronzes and glass beads exclude all but the last stage of the First Period.

¹ Milocca is the same place as Matrensa, where, it will be remembered, neolithic remains exist. To avoid confusion we may refer to the neolithic site as Matrensa and the bronze age site as Milocca.

² B. P., xxix, p. 136.

³ I now doubt this.

Tholos
tomb.

Late
Minoan
vases.

Other
tombs.

We now pass on to the necropoleis of Cozzo Pantano and Thapsos, which are in many respects the most important of this group.

The Cozzo del Pantano is a tongue of limestone which runs east and west within the marshy ground west of the Great Harbour of Syracuse¹ (Map IV, 192). In the steep north and south faces of the ridge are to be seen a number

3. Cozzo
Pantano



217



218

FIG. 217. Late Minoan vase, Milocca. Scale $\frac{1}{2}$. (After Orsi, *Bull. Pal.*)

FIG. 218. Short sword, Milocca. Scale $\frac{1}{3}$. (After Orsi, *Bull. Pal.*)

of rock-tombs of the Second Siculan period. The chambers are entered by a shallow cutting in the vertical rock-face, and a true *dromos* or entrance corridor is never found. The chamber itself, rarely preceded by a small antechamber, is always circular in shape and has a vault which is either flat, slightly curved, or worked into the form of a Mycenaean *tholos* (fig. 219). Occasionally one or more elliptical niches

Tomb-
type.

¹ *Mon. Ant.*, ii, p. 1.

(B B) are opened in the wall of the chamber proper at a little height from the floor : a low ridge or bench of living stone (A A) is sometimes left around a part or the whole of the perimeter of the tomb. The grave was closed by a large slab of rock, to receive which the edges of the doorway were sometimes rebated. The closing was, in one case at least, reinforced by a masonry of small stones built up outside it. The cutting which gave access to the tomb was often open to the sky, and ended outwards in a small trench serving to carry off any rain-water that might lodge in front of the door.

Ritual.

One tomb, found intact, is particularly interesting for the arrangement of the bodies. The three bodies had originally been seated on a bench which runs round half the cir-



FIG. 219. Rock-tomb at Cozzo Pantano; section and plan. (After Orsi, *Mon. Ant.*)

cumference. The vases consisted of a very large jar, three high-footed basins, three small jars or cups and a small bowl for serving round liquid. Evidently the bodies had been arranged as at a feast.

Relation to
Period I.

These graves, although by their contents belonging to the Second Period, show many points of resemblance to those of the earlier period. Although the painted vases of Period I have disappeared, the shape of the graves still remains circular, and numbers of bodies, perhaps stripped of the flesh, are deposited in one tomb. The number in one case amounts to sixty-eight, some of these being actually buried in the outside cutting.

Pottery.

The pottery is of several types. Of the grey ware some pieces are rough and unadorned while others are ornamented with thin bands of clay in relief or with incisions. The figures will give some idea of the types. The great feature

of the local pottery is the large high-footed basin which occurs in several forms, sometimes with a high tongue-handle forked at the top (fig. 222). The small jug (fig. 223) is important, for in its handle, pierced from above, Patroni finds a parallel to certain handles from the so-called Siculan tombs at Matera. The yellow-surface ware occurs in both its usual forms (figs. 220 and 221), and there is also one example of the brush- or feather-work ware so usual at Cassibile.

Italian analogies



FIG. 220. Yellow-faced ware. Scale $\frac{3}{8}$. (After Orsi, *Bull. Pal.*)
FIG. 221. Yellow-faced ware, Cozzo Pantano. Scale $\frac{1}{4}$. (After Orsi, *Mon. Ant.*)

The most important vase is a Mycenaean two-handled cup (fig. 224), in blood red on pale ochre. It is of the decadent style and according to Cretan chronology would belong to the Late Minoan III period. Its closest analogies are the cups from Ialysos in Rhodes.

Aegean imports.

The bronze fibulae are of two types, either the plain violin-bow with two knobs on the bow or the curved bow with a cusp (*serpeggiante a gomito*). The other objects of bronze include a long sword of the Mycenaean rapier type, rhomboid in section (fig. 225), similar to but broader than that found at Plemmirio, and three shorter swords or daggers of similar

Fibulae.

section but broader in proportion, and in two cases having a short tang.

Date. Orsi, relying on the Mycenaean analogies, attributes the cemetery to the twelfth and eleventh centuries B. C.

4. Thap- Not far north of Syracuse lies the small rocky island of
soss. Thapsos (Map IV, 183), joined to the shore by a narrow tongue of sand which is covered at times by the sea.¹ Along the north and part of the east coast of this island lie upwards

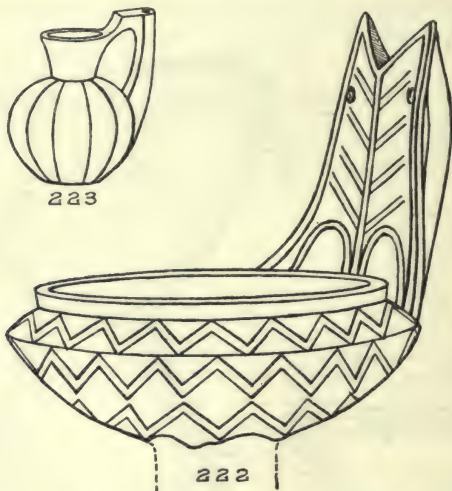


FIG. 222. High-footed basin of incised grey ware, Cozzo Pantano. Scale $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

FIG. 223. Grey ware, Cozzo Pantano. Scale $\frac{2}{3}$. (After Orsi, *Mon. Ant.*)

Tombs. of 200 tombs of the Second Siculan period. The greater number of these lie at a distance of between 5 and 50 metres from the sea, the entry of which has reduced many of them to a deplorable condition. The whole cemetery has been subjected in various ages to the depredations of bronze-hunters who, not content with extracting the metal from the tombs, broke up the vases and even disturbed the bones.

Two types of tomb. The graves are usually hewn in a perpendicular face of rock, in which case they are entered by a passage or corridor ending in a small door (*finestra*). But in a few cases where the rock formed the surface of the earth and offered no

¹ *Mon. Ant.*, vi, p. 1.

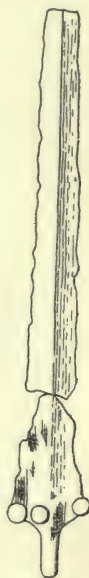
perpendicular faces, entry was obtained by a vertical shaft, from the bottom of which a small opening gave access to a completely subterranean chamber as at Plemmirio (fig. 226).

The shape of the chamber is usually elliptical or circular. A raised bench cut in the living rock often runs round a part at least of its circumference, and, as at Cozzo Pantano, elliptical niches are often hewn in the walls (fig. 227). The roof is either flat, slightly round, or of the Mycenaean *tholos*

The burial chamber.



224



225

FIG. 224. Mycenaean vase, Cozzo Pantano. Scale $\frac{1}{3}$. (After Orsi, *Mon. Ant.*)

FIG. 225. Bronze sword, Cozzo Pantano. Scale $\frac{1}{3}$. (After Orsi, *Mon. Ant.*)

form. The chamber itself was often preceded by a spacious antechamber now wholly or in part open to the sky. The construction of these antechambers forms a special feature of the graves of Thapsos and was rather elaborate. The figure given (228) shows one of these antechambers in ground-plan and in prospect. It will be seen that across it runs a solid mass of masonry constructed with carefully squared blocks and without mortar. The blocks marked AA are upright pillars which no doubt supported an architrave and

were closed by a vertical slab. Behind the pillars may be seen the doorway of the tomb proper, trapezoid in shape and rebated to receive the closing slab. In another grave of very similar construction the two pillars are left standing

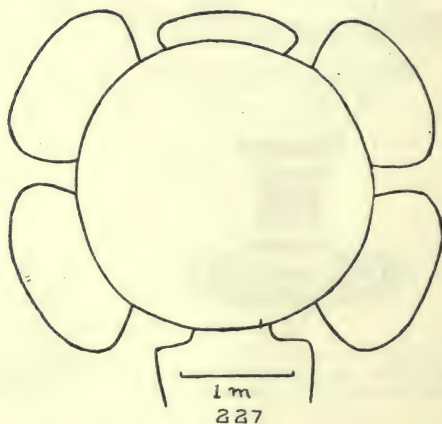
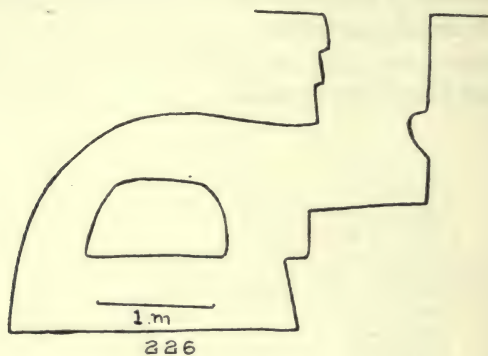


FIG. 226. Section of rock-tomb with shaft-entrance, Thapsos. (After Orsi, *Mon. Ant.*)

FIG. 227. Plan of circular rock-tomb with five niches, Thapsos. (After Orsi, *Mon. Ant.*)

in living rock, and the door of the chamber proper is of the Egyptian type with 'ears'.

The use of masonry in these tombs raises an important question. We have seen that in other cemeteries similar though usually simpler constructions are found. Is the

art of building with carefully squared blocks natural to the *Siculi* of this time or did they acquire it from abroad? We must remember that buildings in stone are very unusual in the period, in fact the only example known is the royal palace at Pantalica. Certainly the ordinary Siculan did not live in a stone-built house, but in a hut of wood or straw.

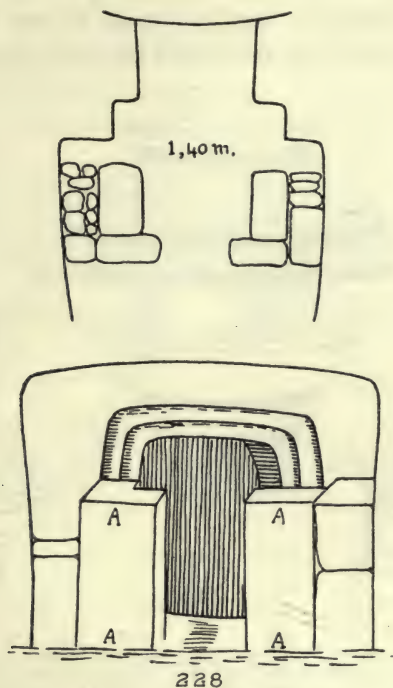


FIG. 228. Plan and elevation of entrance to tomb, Thapsos. (After Orsi, *Mon. Ant.*)

It is a significant fact, too, that it is on the coast that these masonry-adorned tombs occur most frequently and in their most finished form, and in connexion with the *tholos* form of chamber. Further, the contents of the graves, both of Thapsos and Cozzo Pantano, show every sign of close contact with the Mycenaean civilization of the Aegaeon. It seems therefore natural to suppose that the *tholos* was not indigenous to Sicily, but was introduced from Crete or the

Greek mainland. In this case it is probable that the use of masonry came from the same source.

Ritual.

The burial rite at Thapsos lies midway between that of the First Period and that of the Third. Graves with numerous burials are not at all unusual, more than twenty skeletons occurring in several cases. On the other hand, many tombs contain only a few bodies, and mark the transition to the single or family burials of the Third Period. Many of the skeletons are found in the crouched position,



FIG. 229. Mycenaean *pyxis*, Thapsos. Scale $\frac{2}{3}$. (After Orsi, *Mon. Ant.*)
 FIG. 230. Mycenaean amphora, Thapsos. Scale $\frac{1}{3}$. (After Orsi, *Mon. Ant.*)
 FIG. 231. Late Mycenaean vase, Thapsos. Scale $\frac{1}{3}$. (After Orsi, *Mon. Ant.*)

while others are stretched out with merely the legs bent up. The dead are always left as at a banquet. Every tomb contains its large high bowl to hold liquid, its cups for dipping and drinking, and its high-footed basins, once filled with food.

Pottery.

The pottery, laying aside two fragments of the painted ware of Period I, may be divided into four classes, rough ware, yellow-faced ware, Mycenaean ware, and fine grey ware.

The rough ware need not be described, and the yellow-

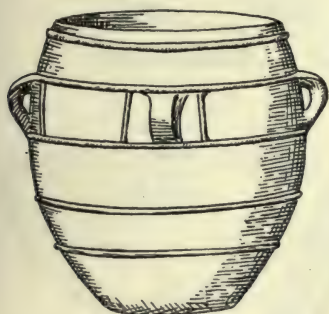
faced ware only occurs in one of its forms, the inverted
 conical basin (fig. 220).

Rough and
 yellow-
 faced ware.

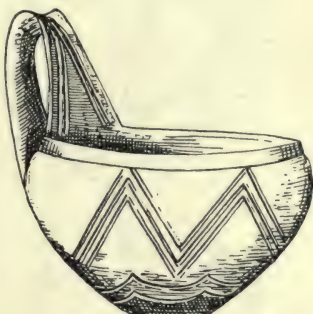
The Mycenaean vases are twenty-four in number, and
 consist of thirteen *amphorae* (fig. 230), three *pyxeis* (fig. 229),
 three jugs or flasks (fig. 231), one *Bügelkanne*, and four
 vases of uncertain shape.

Mycenaean
 ware.

All these vases are of the most decadent style, painted in
 lustrous brown or red on a buff slip. In Cretan chronology
 they would belong not only to the Third Late Minoan period
 but to the very end of that period. They are, as a whole,
 distinctly more debased than the Ialysos vases.



232



233

FIG. 232. Large jar with relief-strip ornament, Thapsos. Scale c. $\frac{1}{4}$.
 (After Orsi, *Mon. Ant.*)

FIG. 233. Incised grey ware, Thapsos. Scale c. $\frac{1}{4}$. (After Orsi, *Mon. Ant.*)

The usual Siculan grey ware takes particularly elegant
 forms at Thapsos. The figures give some of the more
 important shapes (figs. 232-239). The large funeral basins
 with high foot and trapezoid handle are particularly notice-
 able (fig. 238). The incisions are carried out with a not
 very fine point. The schemes used are generally simple
 and often executed in sets of two or three parallel lines.
 Occasionally we find bands filled with dots and bordered
 by straight lines. Patroni quotes this as evidence that the
 remains of the Second Siculan period are due to a people
 who descended from South Italy at the close of Period I.
 These are the people who make the punctured band-ware
 of Matera and Pertosa. Patroni sees in the examples of

Grey in-
 cised ware.

Thapsos the continuation of this type of decoration. Elsewhere I have tried to show the improbability of this hypothesis (see below, p. 485).

In a few cases the incisions form naturalistic designs as in the birds of fig. 239.

Figurines.

Two idols of local clay must be mentioned. One represents the human figure, the other an animal. Neither suggests imitation from the usual Mycenaean figurines.

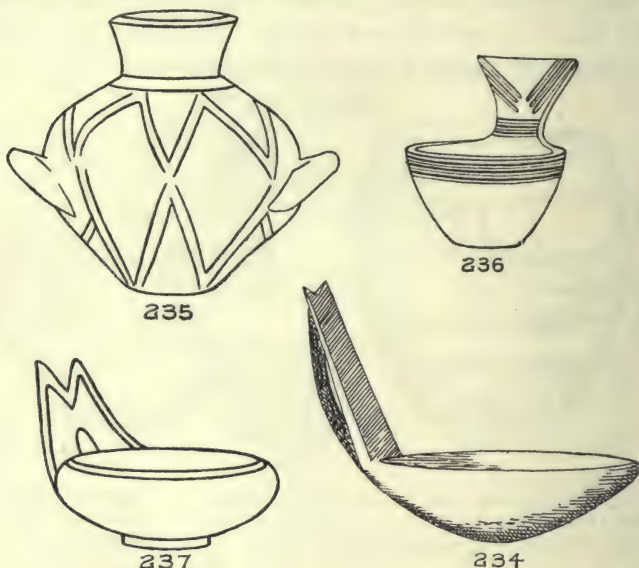


FIG. 234. Ladle with high handle, Thapsos. Scale $c. \frac{1}{4}$. (After Orsi, *Mon. Ant.*)

FIG. 235. Incised grey ware, Thapsos. Scale $\frac{2}{3}$. (After Orsi, *Mon. Ant.*)

FIG. 236. Ladle of incised grey ware, Thapsos. Scale $\frac{2}{3}$. (After Orsi, *Mon. Ant.*)

FIG. 237. Ladle of fine grey ware, Thapsos. Scale $\frac{2}{3}$. (After Orsi, *Mon. Ant.*)

Metal.

Objects of metal are extremely rare, the successive depredations having allowed little to escape. The finest bronze is a sword (fig. 240), 29 cm. in length. Another short sword or dagger is 183 mm. in length, has a rounded point, and is of a much flatter type. An armlet of bronze has a central rib of semicircular section.

Other imported objects.

One grave which contained a Mycenaean *amphora* also yielded a spherical bead of amber and several fluted beads of a kind of glass-paste or enamel. Similar beads of paste

occur at Ialysos, Cameiros, and in *tholos* tombs on the Greek mainland.

This cemetery, with its elaborate tombs, and its numerous Mycenaean vases, reveals a civilization of a very advanced

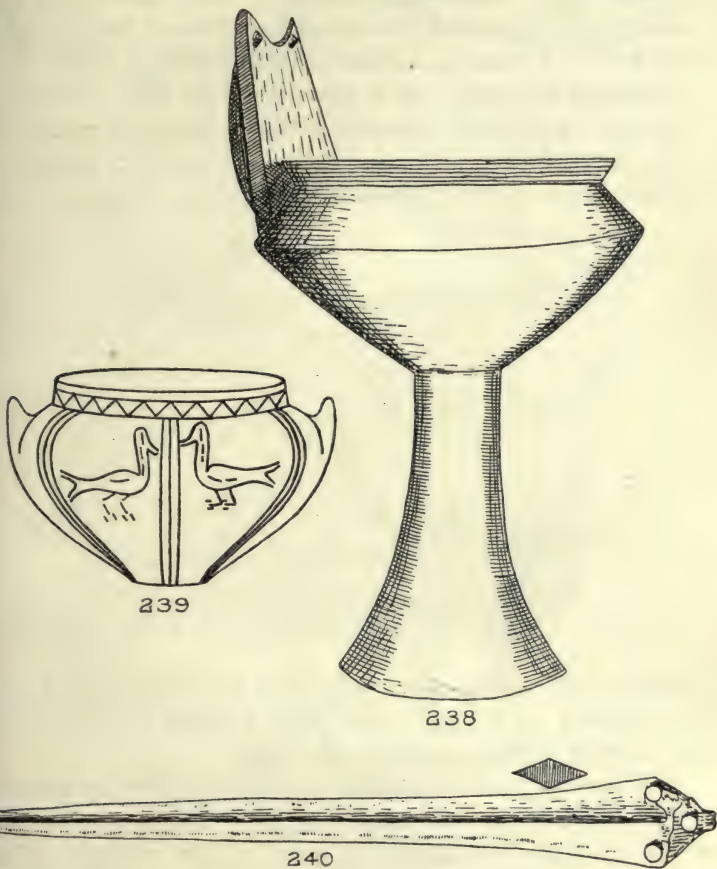


FIG. 238. High-footed basin, Thapsos. Scale $c. \frac{1}{3}$. (After Orsi, *Mon. Ant.*)

FIG. 239. Incised grey ware, Thapsos. (After Orsi, *Mon. Ant.*)

FIG. 240. Bronze sword, Thapsos. Scale $c. \frac{1}{3}$. (After Orsi, *Mon. Ant.*)

type, in close touch with that of the Aegaeon area. It represents a single period, of no very great length, corresponding to the moment of greatest dispersion of Mycenaean vases in the Mediterranean.¹

¹ To prevent possible misconception it must be added that the two

5. Molinello.

Tombs.

Contents.

On the western edge of the harbour of the modern Augusta, lies the hill called Molinello (Map IV, 181). Here were examined eight graves, two in 1892, and six in 1902.¹ The burial chambers are hewn in the rock, and are usually round, preceded by a small antechamber. The vault is in some cases pointed, so that the whole tomb is of bee-hive form (fig. 241). A curious feature is a protruding ledge, which runs round the vault, at a short distance below its vertex. One tomb contained, beneath a Greek burial of much later date, three bodies with the legs bent up, and among the pottery was a late Mycenaean *amphora*. Another tomb

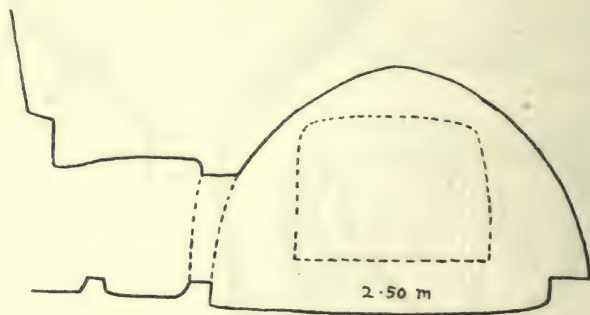


FIG. 241. Section of *tholos* tomb, Molinello. (After Orsi, *Bull. Pal.*)

consisted of a natural cavern enlarged and shaped artificially. It contained six bodies. The pottery found in these tombs was mostly plain, or incised grey ware.

6. Cassibile.

Tomb-type.

The tombs of the Cassibile are about 2,000 in number and lie in the river valley not very far from the sea (Map IV, 196).² The graves examined were 160 in number. They represent a transition from the elliptical to the rectangular type. The elliptical form is, perhaps, the more usual, and the rectangular form seldom includes the stone bench,

'geometric' *skyphoi* found in this cemetery belong to a secondary burial in Tomb 8. The original Siculan burial lay much lower, beneath a thick stratum of earth. It was impossible to examine it owing to the rising of sea-water within the grave.

¹ *Not. Scav.*, 1902, p. 416; *Arch. Stor. Sic.*, 1893, xviii, p. 20.

² *Mon. Ant.*, ix, pp. 1 sqq.

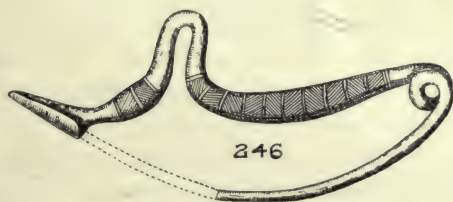
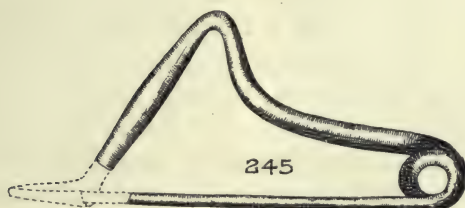
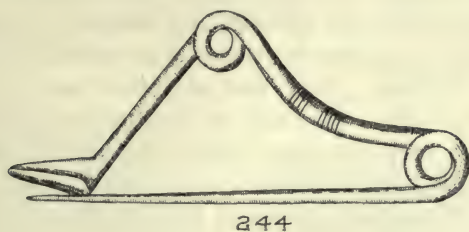
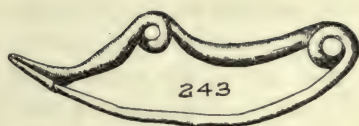
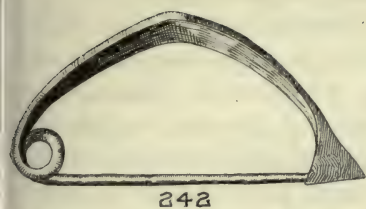


FIG. 242. Simple flattened-bow fibula, Cassibile. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

FIG. 243. Fibula *serpeggiante con due occhielli*, Cassibile. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

FIG. 244. Harp-shaped fibula with eye (*ad arpa*), Cassibile. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

FIG. 245. Fibula *a gomito* (elbow-shaped), Cassibile. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

FIG. 246. Broken-backed fibula, Cassibile. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

or *capezzale*, typical of the Third Period¹ tombs. Tombs consisting of several chambers combined are rare at Cassibile, as also tombs of larger size, perhaps because of the extreme hardness of the rock. There is no trace of the *tholos*, nor of the tomb architecture of the coast cemeteries. The doors of the tombs are usually closed with quite rough blocks of stone, though their edges are carefully rebated. One fine example has four successive rebates, and the sides and the lintel are all slightly concave.

Transi-
tional
ritual.

The burial rite is also transitional between the Second and the Third Periods. Only one skeleton was found in the crouching position. The rest are laid on one side, stretched fully out, or with the legs bent. Burials of many bodies together are unknown; sixty-five chambers contained single skeletons, thirty-four contained two, eight contained three, and three contained four.

Bronzes.

Among the funeral furniture the fibulae call for attention. The true violin-bow form is lacking, but two of its direct descendants, the elbow-shape (*a gomito*) (fig. 245), and the harp-shape (fig. 244) occur. Closely allied to these is the form *serpeggiante ad occhio* (fig. 243). The simple bow-shaped fibula is common, the bow being thin or thickened, round, square or flat (fig. 242). A model axe threaded on to the pin of a fibula copies the usual form of this period. The knives number six of leaf-shaped type, twelve of flame-shape, and two razor-knives. The personal ornaments include, besides the fibulae, a bronze belt-clasp, bronze buttons and biconical beads, a gold ring similar to that found at Pantalica, and beads of carnelian.

Pottery.

The pottery is mainly of the feather- or brush-work type, patterns being painted in red or brown, on a cream ground, and the whole polished by the addition of a coat of some resinous substance (figs. 247, 248). The most important of the forms is the high-footed basin which appeared in almost every grave.

Chrono-
logy.

As to the chronology of the Cassibile burials there is little difficulty. Everything tends to place them late in the

¹ Orsi's Third Siculan period corresponds with the first two or three centuries of the iron age in Sicily.

Second Siculan period. We have seen how the burial rite and the grave form point to this date. The material found agrees with this. We have not reached the Third Period, for the biconical bead of bronze is rare, and the ship-fibula (*a navicella*) and geometric pottery are absent. We are not in the early part of the Second Period, for the violin-bow fibula has had time to develop. Besides, the feather-work pottery of Cassibile is rare in the north cemetery at Pantalica, but commoner in those of Filipoporto and Cavetta, which are later; i. e. it belongs to the transition

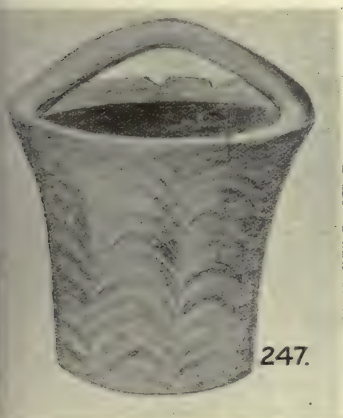


FIG. 247. Feather-pattern ware, Cassibile. Scale $\frac{2}{3}$. (After Orsi, *Mon. Ant.*)

FIG. 248. Feather-pattern ware, Cassibile. Scale $\frac{1}{3}$. (After Orsi, *Mon. Ant.*)

to the Third Period. We must therefore put Cassibile late in Period II. In conclusion, it is well to note the absence of foreign influence—there is no Mycenaean work at all, and with the exception perhaps, of the carnelian beads, there is nothing which might not well be of local make.

This cemetery, although from its position it is tempting to group it with those of the coast, differs from them in many particulars, and has more affinities with those of the interior shortly to be discussed. We shall be able to explain these affinities later. Here we must be content with saying that the question is simply one of date.

Peculiarities of
Cassibile.

7. Caldare
and Cannatello.

Leaving the region of Syracuse, and passing round Cape Passero, we come to two important sites near Girgenti, the ancient Agrigentum. As early as 1896 limited excavations had been made at Caldare and Cannatello. At Caldare

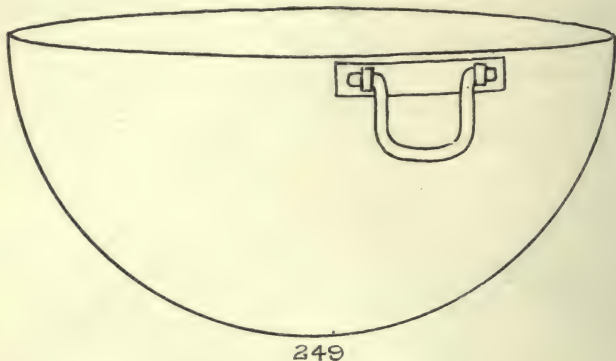


FIG. 249. Bronze vessel, Cannatello. Scale $\frac{1}{2}$. (After Orsi, *Bull. Pal.*)

FIG. 250. Horn-shaped object of earthenware, Cannatello. Scale $\frac{1}{2}$.

Caldare. (Map IV, 166)¹ a vaulted tomb of circular plan yielded two bronze vases (fig. 249), perhaps imported, and two blunt-ended swords, to which we shall have to return later. At Cannatello (Map IV, 167)² remains of hut-foundations

¹ *B. P.*, xxiii, p. 8.

² *B. P.*, xxiii, p. 106."

were discovered, but the excavations were not very fruitful.

Subsequent excavations carried out by Mosso at Caldare and Cannatello have done much to increase our knowledge of the early Sicilian civilization.¹ At Caldare he excavated a rock-cemetery of the usual Siculan type, which does not call for special description. Less than half a mile from these graves was found the remains of a prehistoric hut-village. The huts had apparently been built up against a mass of rock, the quarrying of which had destroyed several of them. It was, however, ascertained that the huts had a floor of beaten clay over a stratum of large stones. The remains found on the hut floors were of the Second Siculan period. Underneath one of these floors were found fragments of pottery of the First Siculan period, showing that there was an earlier settlement on the site, and affording evidence for the view that there was no violent break or change of population between the First and Second Periods. The most interesting find in the huts was a female idol of terracotta.

More extraordinary still were the discoveries made by Cannatello Mosso at Cannatello. Here was found a kind of circular *piazza* with a diameter of 60 metres, covered with a pavement of large rough stones. This *piazza* was not sensibly raised above the level of the surrounding plain, and was not in any sense a fortress, although it was probably surrounded by a palisade. Trenches dug radially from its centre brought to light the remains of six huts, four circular, one shaped like an 8, and the last, which stood almost at the centre, roughly square. This last measured 6.04 metres by 4.70 metres. In all four corners were sockets for the poles which had supported the roof, and four sockets were also found along a line across the centre, parallel to the shorter sides. The pavement of the hut was of beaten clay. Around the sides ran a wall of three courses of rough stones set without mortar, resting not directly upon the pavement but upon a plinth of clay. The stones were so chosen and laid as to give an approximately flat surface on the

The
piazza.

Huts.

Square
hut.

¹ *Mon. Ant.*, xviii, p. 573.

inner side. A trench dug close by the hut revealed pottery of the first Siculan period, at a level well below that of the pavement of the hut itself.

Other huts.

Of the other huts none had any vestige of walls, except that which was shaped like an 8. Mosso was unable to determine whether the circular huts were more recent than the square one, or vice versa. Not far from this piazza is another hut-village, and, leading to it, a road formed of rough blocks of stone. The largest blocks are placed on the outside, and the smaller form a filling within these. The width of the road is about a metre.

The sanctuary.

Leading off from the piazza towards the South-West was a road 3.80 metres in width. At the side of this road, and at a distance of 12 metres from the circumference of the piazza, lay another hut, and just beyond it were the remains of what Mosso describes as a primitive sanctuary, or temple. The first object found was a round table made of earthenware tiles, each shaped like the quadrant of a circle. This table, whose radius was 22 cm., was marked above by smoke. Not far from the table lay a rough slab of limestone, and beside it three of the earthenware horns (fig. 250), common in the First and Second Siculan periods, seven shells of the genus *Pectunculus*, and a number of white pebbles. These terracotta horns have long been suspected by Orsi to have a religious significance, and indeed, in view of the extraordinary combination of objects found in this spot there can be hardly any doubt that we are in the presence of a sanctuary of the early Siculans. Mosso justly compares the finding of sea-shells, including *Pectunculus*, in the temple repository at Knossos,¹ but he is perhaps a little bold when he ventures to call the round object a libation-table. Other objects of note were found in the sanctuary. The white pebbles already mentioned lay upon a stratum of grey gravel, similar to that of the river Naro, which flows not far from Cannatello. A number of knuckle-bones of oxen and sheep also came to light, together with a stone pestle and several fragments of a fine polished black ware not known elsewhere in Sicily. Mosso suggested

¹ B. S. A., ix, p. 42.

that the pestles served to grind red ochre, several pieces of which were found in the course of the excavations.

The pottery found at Cannatello was of two periods, Pottery. that is to say, it included pieces which could be definitely assigned to the First or to the Second Siculan period respectively. Unfortunately, Mosso does not tell us whether the pottery from the floors of the huts was of the earlier, or the later of these two periods. In any case, he has proved beyond all doubt that between the two periods there was no violent break, and that the *piazza* at Cannatello was built over the remains of an earlier settlement.

Leaving the coast and advancing into the interior, roughly B. Settlements in the interior. westward from Syracuse towards Girgenti, we come upon four vast cemeteries of this period, Pantalica, Badia di Grammichele, Montagna di Caltagirone and Monte Dessueri (see Map IV). They lie in various small river valleys, but are all four on the main pass which leads from Syracuse to Girgenti, and the West of the island. These four cemeteries represent a period slightly later than those on the coast, and we shall find that the material they have yielded is in many respects new to us.

We shall, in describing them, adopt the natural geographical order, moving westward from Syracuse and beginning with Pantalica.

Mount Pantalica (Map IV, 180) is described as a rocky 1. Pantalica. bastion cut off on all sides by deep valleys.¹ Its sides run down sometimes very abruptly to these valleys in alternate terraces of rock and grass. To the prehistoric Sicilian these vast rock-faces must have appeared an ideal spot for the opening of chamber-tombs, and indeed, every side of the mountain has been utilized for that purpose. Five groups of sepulchres can be distinguished. These are Tomb-groups. called respectively North, North-West, South, Filiporto and Cavetta. The first two belong to the Second Siculan period, the last three belong, in part, to the Third Period, in part to the period of transition from the Second to the Third.

¹ *Mon. Ant.*, ix, p. 33.

North-
West
group.

The North-West group contains about 600 graves, of which only fifty yielded results. The usual shape of the chambers is elliptical, though rectangular examples are not unknown. Sometimes several chambers open off a central corridor.

North
group.

Of the North group, numbering about 1500, some 200 were examined. Elliptical chambers are the most common, the rectangular form is less usual, though a form midway between the two is not uncommon. The doorway of the cells is often trapezoidal, and is sometimes rebated to hold more firmly the single slab which hermetically seals the tomb. The slab is often reinforced and occasionally even replaced by masonry (fig. 254). In some cases several

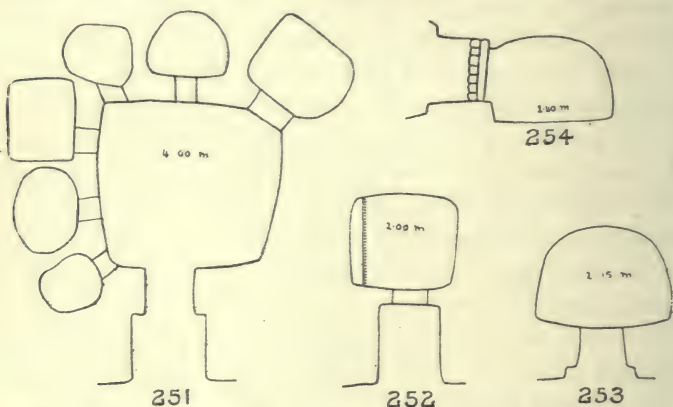


FIG. 251. Plan of rock-tomb, Pantalica. (After Orsi, *Bull. Pal.*)

FIG. 252. Plan of rock-tomb with bench, Pantalica. (After Orsi, *Mon. Ant.*)

FIG. 253. Rock-tomb, Pantalica. (After Orsi, *Mon. Ant.*)

FIG. 254. Section of rock-tomb, Pantalica. (After Orsi, *Mon. Ant.*)

chambers open off a corridor, which is sometimes so large as to rather deserve the name of a chamber (fig. 251).

Filiporto
group.

The Filiporto group reveals three main types of grave. The first is roughly semicircular, with a flat roof, a form already known in the Second Period (fig. 253). The second type is rectangular with a raised bench or pillow of rock (*capezzale*) (fig. 252), on one or both sides; the entrance corridor is deeply cut into the rock. This is the most usual form in the Third Period. The third type consists of a long corridor from which open off several trapezoidal chambers.

The sepulchres of the Cavetta group are similar to those of the Filiporto. A unique example, however, consists of a corridor descending by four steps into a central chamber in the walls of which open five other chambers, not all at one level, but in two layers or stories. Cavetta group.

Orsi has not yet been able to publish the contents of the south group, and so we do not know the details of the tomb forms. South group.

It will be seen that the forms given extend from the circular or elliptical type of the First Period, to the rectangular type with its *capezzale* of the Third. As peculiar to Pantalica should be noted the groups of chambers opening into a central corridor. The *tholos* form found in the cemeteries of the coast is lacking. Tomb-types.

The attitude of the bodies marks a transition, just as do the types of the tombs. The crouched attitude occurs as in Period I, but more usually the body is laid flat, with the legs and even the arms bent. The burial of many persons in one chamber is also declining. In the North and North-West groups it is not unusual to find from five to seven skeletons in a tomb, and one example contains fourteen. In the Filiporto and Cavetta groups, however, three is the largest number of skeletons found together. Transitional ritual.

The funeral furniture consists of types which will be dealt with more fully in discussing the Second Period in general. Three kinds of knives occur, the lanceolate or leaf-shaped, the flame-shaped, and the knife-razor (figs. 257-9). Of the fibulae one is of violin-bow type (fig. 255), twenty-six are simple bow type (fig. 256), and two are *serpeggianti ad occhio*. Other articles of ornament or toilet are an arm-ring, finger-rings of bronze, three bronze mirrors similar to those found in Mycenaean graves, three beads and a ring of gold, an armlet and rings of silver, and a bead of glass paste. The mirrors, the objects of silver and gold, and the paste bead must all have been imported from some centre of the Mycenaean civilization. Bronzes.

The pottery must also be left for more general treatment. Suffice it to say here that the most typical ware at Pantalica is the red-surface ware (figs. 260-4). Pottery.

In conclusion, it is necessary to remark that the mountain of Pantalica with its thousands of tombs has proved a veritable mine of bronze, and perhaps of rarer metals, to the successive depredators of ages. Any argument, therefore, based on the absence of particular types, or on their relative frequency must be used with the utmost reserve.

The royal
palace of
Panta-
lica.

To the people who used these cemeteries Orsi also attributes a building which he has discovered and excavated at Pantalica.

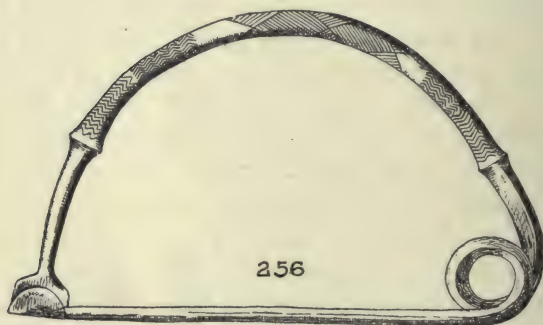
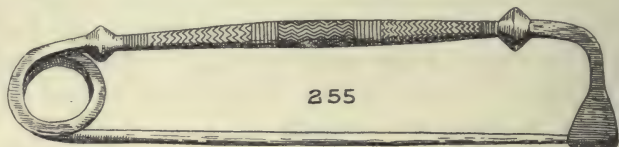


FIG. 255. Violin-bow fibula, Pantalica. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

FIG. 256. Arched or simple bow fibula, Pantalica. Scale c. $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

The ruins.

Its ruins are now insignificant, and are rendered more difficult to disentangle by the fact that they were re-adapted to habitation in Byzantine times. The plan of the 'palace' is a rectangle, lying north-west and south-east, and $37\frac{1}{2}$ metres by $11\frac{1}{2}$ (fig. 265). The stone is a hard shell-bearing limestone, not found nearer than several kilometres from the spot. The style is almost megalithic, especially in the south-east division. The blocks, often of more than a cubic metre, and sometimes of more than 2 cubic

metres in content are fairly accurately squared, and fit closely together. Within this south-east division, or room, were found five pieces of sandstone moulds for casting metal. Two of these had been used to cast flat celts. These moulds were found among a mass of charcoal and ashes. The pavement of the room consists of a trodden mass of cinders, burnt bones, straw and potsherds. The latter were of the red-polished ware. Outside the east wall were found similar potsherds, and fragments of axes with trans-

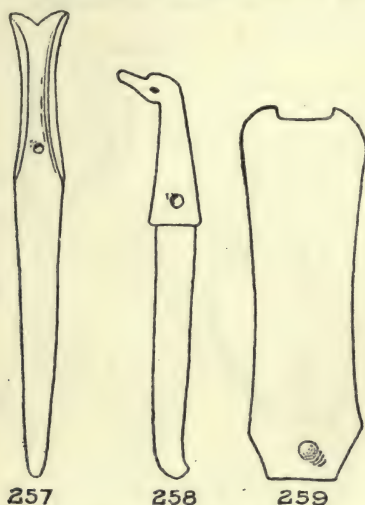


FIG. 257. Bronze knife, Pantalica. Scale $\frac{9}{16}$. (After Orsi, *Mon. Ant.*)
 FIG. 258. Bronze-hilted flame-shaped knife, Pantalica. Scale $\frac{3}{8}$. (After Orsi, *Mon. Ant.*)
 FIG. 259. Bronze razor-knife, Pantalica. Scale $\frac{3}{8}$. (After Orsi, *Mon. Ant.*)

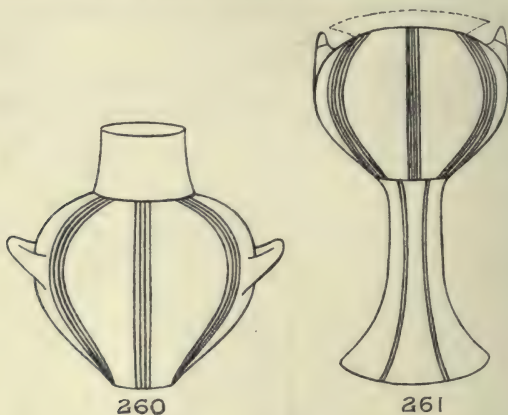
verse sockets (*accette ad occhio*). These, and a few other fragments of bronze, combined with the moulds found within, prove that this room was devoted to the casting of bronze.

The rest of the palace is worse preserved than this room. Five and possibly six rooms are distinguishable, together with a corridor.

It may seem bold to question the excavator's definite statement that this building belongs to the Second Siculan period, but those who have experienced the difficulty of finding the chronological relation of walls to the soil in which

Do they
date from
Siculan II?

they lie, will, no doubt, prefer to remain sceptical. Is it not possible that the 'palace' is a building of later date, founded on a spot which had previously been inhabited in the Second Siculan period? This can only be decided by a minute examination of the ground, not only within the building, but also around it, an examination which it is to be hoped will some day be made. If the Sicilians of this time were in the habit of raising masonry of this almost indestructible type, it is remarkable that no other example has survived. It is even more remarkable that the people



FIGS. 260-61. Polished red ware, Pantalica. Scale $\frac{1}{2}$. (After Orsi, *Mon. Ant.*)

should have lived in mere huts as we know they did at Cannatello.

Use of
masonry in
Siculan II.

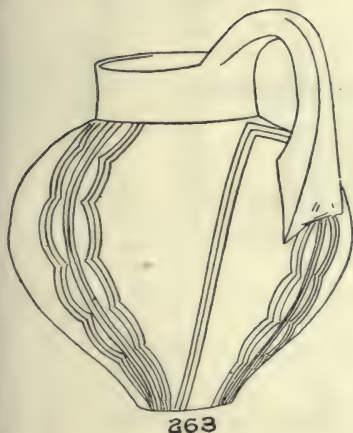
At the same time, both at Thapsos and Pantalica we find funeral architecture of no mean type. In view of this fact and of the relations between Sicily and the Aegæan, where architecture was already at an advanced stage, it would be foolish to deny outright the possibility that the 'palace' belongs to the Second Siculan period.

2. Gram-
michele.

Judging by the necropoleis we have so far examined, we might have believed that the rock-hewn chamber was the only kind of grave in use at this period. That this is not the case is shown by the cemetery of Molino della Badia, near Grammichele,¹ the next in order, west of Pantalica (Map IV,

¹ *B. P.*, xxvi, p. 96.

175). To hollow rock-tombs in the hard lava of the Etnaeen district was impossible, and the dead were laid in simple trench-graves lined and covered with slabs of local sandstone. The skeletons were laid on the back and fully extended. The absence of any contraction of the limbs is curious, and Orsi suggests that it was forced by the narrowness of the



FIGS. 262-4. Polished-red ware, Pantalica. (After Orsi, *Mon. Ant.*)

FIG. 262, scale $\frac{1}{2}$. FIG. 263, scale c. $\frac{1}{2}$. FIG. 264, scale $\frac{2}{15}$.

graves, sandstone slabs of greater width being unobtainable. One skeleton was buried in an ovoid jar of the usual type. This is the only case of such a burial as yet known in Sicily. Pottery was extremely rare in the graves, but it included a jug with feather-work in red on buff, and two *askoi*.

The *fibulae* include all the well-known Sicilian types, *Bronzes*. violin-bow, *serpeggiante* and arched-bow shapes. Some of these are finely incised. Ornaments were numerous, and

included amulets, rings, chains, buttons, and pendants of various kinds. To these may be added an ivory comb, similar to that found at Plemmirio. The bronze knives are either flame-shaped or leaf-shaped, sometimes with a bronze handle. Two small votive axes were, no doubt, worn as pendants, perhaps amulets. The rectangular razors (fig. 266) are of great interest from their resemblance to the Italian types. Finally, we may note a series of bronze cylinders and tubes. The former are thickened at the ends, and pierced at each end with a hole. Nothing is known as to their use.

Later
graves.

A few of the tombs of this cemetery seem to contain objects more appropriate to the Third Siculan period than

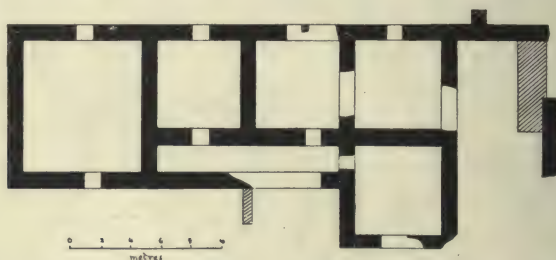


FIG. 265. Plan of Royal Palace at Pantalica. (After Orsi, *Mon. Ant.*)

to the Second, and we may therefore consider it as marking a transition stage.

3. Calta-
girone.

West of Grammichele lies the modern town of Caltagirone (Map IV, 176). La Montagna is the name given to a group of heights immediately to the North of the town. In the rock faces on the south side of these hills lie over a thousand Siculan graves, forming a cemetery inferior in size only to those of Pantalica, Cassibile and Dessueri.¹ The great peculiarity of this cemetery is that it contains graves of the beehive shape, hitherto believed to be restricted to the necropoleis of the coast region. Graves consisting of several chambers are rare, as are also the niches and stone benches or pillows. The entrances to the tombs were usually barred not with a large slab but with rough masonry set without mortar. Rectangular chambers were entirely lacking. The

Tholos
tombs.

¹ *Not. Scav.*, 1904, p. 65.

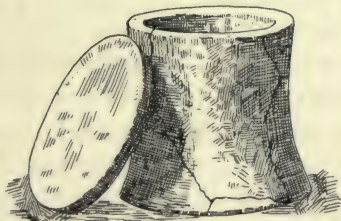
number of skeletons found in the same tomb was in two cases as many as six, but single burials were by far the most usual.

Owing to repeated plunderings the bronzes found were not numerous. They included, however, a fine sword, and several knives and daggers of the usual types. Fibulae were rare, being only five in number, of which three belong to the full Second Period, while two point to the end of that period, or the beginning of the Third. Two complete rings of gold and fragments of a third were also found.

Most of the vases are of an unpolished grey or yellow tint. Incised grey ware is almost absent, and 'feather-work' is rare. Polished red Pantalica ware is not uncommon.



266



267



268

FIG. 266. Bronze razor of mainland type, Grammichele. Scale $\frac{1}{2}$.

FIG. 267. *Pyxis* of grey ware, Caltagirone. Scale $\frac{2}{3}$. (After Orsi, *Not. Scav.*)

FIG. 268. Four-handled jar, Caltagirone. Scale $\frac{2}{3}$. (After Orsi, *Not. Scav.*)

Each tomb contains a four-handled jar (fig. 268) and a high-necked flask (fig. 264). This jar form is a speciality of Montagna; elsewhere it occurs at Dessueri, and there rarely. There is also one example at Cassibile. Among other forms should be noted the *askos* (cf. fig. 262), the *pyxis* (fig. 267), and the basin with tubular foot.

Orsi dates the beginning of the cemetery to the middle of the second millennium B. C., and thinks that it continued in use for several centuries, perhaps, six or eight. I doubt, however, whether any tomb in this cemetery is as early as 1500 B. C. (see p. 462).

West of Caltagirone lies the last of our necropoleis of the interior.

4. Monte Dessueri.

In the rocks of Monte Dessueri (Map IV, 170), province of Caltanissetta, lies a vast necropolis of rock-tombs. In 1902 over one hundred of these were explored by Orsi, but the material is at present unpublished. It belongs to much the same period as those of Pantalica and Cassibile, Second Siculan period, with slight indications of the transition to the Third. The fine series of bronzes includes swords, knives, razors and fibulae. The pottery, on the other hand, is rather poor.

Coast and interior sites.

The cemeteries we have described fall geographically into two groups, those of the coast, and those of the interior. Orsi noticed this long ago, and he also noticed the complete absence of Mycenaean vases in the necropoleis of the interior. This absence he explains geographically, by supposing that the interior settlements were not affected by the Mycenaean influence which acted so strongly on the coast. This explanation does not seem to me to be satisfactory. In the first place, it is incredible that this influence should not penetrate into the interior, seeing that Monte Dessueri, the most distant from the coast of these stations, is not 60 miles from Syracuse. And, in the second place, how explain the fact that at Cassibile, a coast station, not a single Mycenaean vase occurs.

Difference in contents not due to position,

but rather to date.

The true explanation of the facts is probably as follows. All the interior stations show traces of the transition to the Third Siculan period. The rarity of foreign imports in them is thus due, not to their position, but to their date. In fact, the greater part of these cemeteries, or at least of Dessueri, Pantalica and Grammichele, is later than the calamity which cut short the expansion of the Mycenaean trade in the Aegaeon. This would also explain the contrast between the native pottery of the coast and that of the mountains. Thus the reason why Pantalica red-polished ware is not found on the coast is that it was not invented until our coast cemeteries were out of use. Similarly, the incised grey ware, common on the coast, had disappeared before the time to which most of the mountain cemeteries belong.

The bronzes tell a similar tale, but, owing to the numerous sackings which nearly all the graves have undergone, the argument *ex silentio* is useless.

As regards date, I should be inclined to move back the dates Date. of the coast cemeteries to fourteenth and thirteenth centuries B. C. as against Orsi's twelfth and eleventh (for Cozzo Pantano). This latter date, twelfth and eleventh, is probably about that of the necropoleis of the interior. But it is of course impossible to be precise.

The stations above described enable us to form some The idea of the life and culture of the Second Siculan period. Second Siculan period. Previous to Mosso's excavations we knew little as to the form of the habitations of this time. Near Catania, however, Dwellings. at a village called Barriera, were found signs of habitation, including pottery of Period II, in several caves, and near the same spot are remains of circular hut-foundations. At Monteracello Orsi found part of a 'hut' of circular or elliptical form, the base of which consisted of two concentric layers of stones. But the lack of all signs of a fireplace, and of animal bones, leaves the destination of this structure rather doubtful. In date it probably belongs to the end of Period I.

If, however, we have not too much evidence as to the Graves. dwellings of the living, we are well informed as to those of the dead. They consisted most usually of artificial Rock-tombs. chambers hewn in the soft limestone which so often outcrops in Sicily. They were usually circular in form, and entered by an open corridor or a shaft, according as the surface of rock to be worked was vertical or horizontal. The shaft type of entrance occasionally occurs at Plemmirio, while at Thapsos it is common (fig. 226), and at Milocca universal. In almost all the cemeteries the grave proper is preceded by an antechamber (fig. 219). We often find, too, niches in the walls of the chamber (figs. 219, 227), used for burial purposes, and low benches or pillows of stone running round the edge of the floor (fig. 219).

In the cemeteries of the coast the *tholos* or beehive-tomb Tholos tomb. is not unusual (fig. 241). This is a novelty of the Second

Period and was no doubt introduced from somewhere in the Aegæan. That it also penetrated into the interior is shown by its existence at Caltagirone. At Pantalica we find tombs consisting of a corridor from which open off chambers on either side, or of a large chamber with two layers of niches in its walls one above the other.

Further proof of connexion with the Aegæan is perhaps to be found in the graves of Thapsos, where the slab which usually serves to close the door is replaced by a mass of masonry made of closely-fitting blocks set without mortar (fig. 228).

Rect-
angular
tomb.

Towards the end of the period the rectangular chamber characteristic of Siculan III begins to make its appearance (fig. 252).

Ritual.

The dead are no longer deposited in such large numbers as in the First Period, and, as the period advances, the number of skeletons in each grave tends to decrease until single burials become almost the rule. With this Orsi is inclined to associate the cessation of the rite of *scarnimento* or removal of the flesh before burial, which he holds to have prevailed in Siculan I. We have seen that this rite is by no means proved, and it is more probable that the decrease in the numbers in each grave is due in part to the increased facility in hollowing out the rock, due to the introduction of metal implements.

The dead are still, in some cases, buried in a sitting or huddled position, but the extended posture with the knees bent slightly is more frequent. The head often rests upon the low stone bench which commonly surrounds the chamber. The banquet of the dead is still kept up in an elaborate fashion. In the centre of the chamber stands the great high-footed bowl which no doubt contained liquid, and each body is provided with a long-handled cup with which to dip.

Material.

We must now turn to examine the material of stone, metal and earthenware with which the graves have furnished us.

1. Flint.

The flint and obsidian knives so commonly deposited with the dead in Siculan I are gradually disappearing, and only occur in the earlier graves of this period, such as those

of Milocca. The axe of basalt, however, still continues in use, and no doubt serves, by the side of that of bronze, for hollowing out the rock-graves.

The plundering of the tombs in various ages has deprived them of most of the bronze objects they once contained, but fortunately we still have a sufficient number to form a good estimate of the bronze industry of the period. More-
 over, the finding of several hoards of bronzes has helped to make our series more complete. One of the most important is that of Tre Canali, near Vizzini,¹ where, with pieces of unworked metal and lanceheads of rather advanced form, were found broken fibulae of the harp-shape (cf. fig. 244) peculiar to the Second Period. At Modica (Map IV, 190)² was found a hoard containing axes of various forms, lanceheads, fibulae of the Second Period, two short swords with T-shaped hilts of bronze, and other pieces, some perhaps of the early Third Period. A hoard discovered at Giarratana (Map IV, 187)³ included fine lanceheads, fibulae of the Third Period, and numerous pieces of impure copper, evidently fragments of masses cast in fixed forms for commercial purposes.

These hoards are of little use for dating purposes, as the objects found together may be of most varied date. They do, however, show that the strange custom of hoarding bronzes was in use in Sicily as elsewhere. Whether the objects were collected to be recast is hard to say, especially as the hoards contain some quite perfect specimens of implements.

We have now to classify according to use and form the whole mass of bronzes acquired from graves and hoards.

From the example at Pietrarossa we know that the plain flat copper celt was known in the First Siculan period. A flat celt from Modica has a small projection on either side to assist in hafting. The winged celt of North Italy is unknown in Sicily and is replaced by the true hatchet (fig. 269), which in North Italy does not appear until the beginning of the iron age. Small models of these implements were used as pendants, sometimes threaded on the

¹ *B. P.*, xiv, p. 167.

² *B. P.*, xxvi, p. 166.

³ *B. P.*, xxvi, p. 267.

pin of a fibula. A peculiarity of this hatchet in Sicily is that it often has a small knob at the top, originally, perhaps, due to a defect in casting, and afterwards perpetuated as an ornament or as useful in hafting.

The hoard of bronzes at Modica also included two socketed hatchets, both with a transverse hole through the socket.

The North Italian celt with slightly-flanged edges is very rare indeed in Sicily. In fact, nothing shows better than the axes the difference in civilization between the two districts.

A dagger, of length 21 cm., was found at Milocca (fig. 218). It is of rhomboidal section with pointed end, triangular tang and two rivets. On each side of the central rib lies another less marked.

b. Dag-
gers.

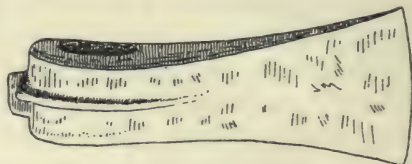


FIG. 269. Bronze axe *ad occhiello*. Scale c. $\frac{1}{2}$.

At Thapsos occurs a dagger with both faces slightly convex, straight edges, round blunt point, and a slight tang, with two rivets below it.

c. Swords. Swords are most common in the coast cemeteries, though, owing to the completeness with which they have been plundered in all ages, it is unadvisable to rely on the evidence of present excavation.

1. Rapier. Among the earliest is the true rapier, a long thin sword adapted for thrusting. The blade is strengthened with a very well-marked rib, and there is a small tang to aid in fixing the handle, and three rivets. A fine example, of length 76 cm., occurs at Plemmirio (fig. 270), and a shorter one at Thapsos.

These examples bear a close resemblance to those both of the Mycenaean shaft-graves and of the Knossian cemetery, without being identical with either. They probably mark a development of the shaft-grave type in which the rib

has become slightly less pronounced and the hilt end rather modified.

More common in Sicily is a rather broader sword of rhomboid section, in which the point still survives, though the heaviness of the blade seems to adapt it more for cutting than thrusting. Such are the examples of Milocca, Cozzo Pantano and Thapsos (figs. 225, 240), and perhaps also ^{2. Broader sword.}



FIG. 270. Bronze sword, Plemmirio. Scale $\frac{1}{4}$. (After Orsi, *Bull. Pal.*)

that of Caltagirone, where the point is almost rounded. The short tang and the three rivets recall the Cretan swords, but in the latter one rivet is always in the tang itself, which is never the case in Sicily. The edges of this type of sword may be slightly convex or slightly concave, or may have a double curve as at Caltagirone.

The same form with the point quite rounded is seen in

two swords from Caldare, though the tang and rivets remain unaltered.

Different from all these is the sword from Cannatello with convex edges and a very broad rib.

Origin of
Sicilian
swords.

One may surmise that the sword reached Sicily from some part of the Aegæan, and that the Sicilians, not having the necessary adroitness to use a true rapier, gradually modified the form until they arrived at a fairly heavy cutting weapon.

d. Knives.

1. Pointed
knife.

To distinguish the pointed knives from the daggers is impossible. The central rib is only slightly marked, and the section is rhomboidal, while the tang is arc-shaped or triangular. The general form is a triangle.

These are Aegæan shapes and can be paralleled freely. An example from Monte Dessucri exactly resembles one in the Zafer Papoura cemetery.¹ In Italy they appear in eneolithic times and last well into the bronze age.

2. Olive-
leaf knife.

3. Flame-
shaped
knife.

Besides these we find flat knives of olive-leaf form. These are common to the bronze age of the Aegæan and of Italy, especially of the eastern pile dwellings. Finally, we have flame-shaped knives. These are not always of the true concavo-convex shape. Often they are straight knives turned up at the end, only slightly thicker at the non-cutting than at the cutting-edge (fig. 258). This type is, as far as I know, peculiar to Sicily and may well be a local product. From this a number of gradations lead us to the true concavo-convex form common in the late Aegæan bronze age. In Italy it does not appear until towards the end of that period, but it is common in the iron age.

Handles.

The handles of all these knives are interesting. Sometimes the knife ends in a slight tang, in other cases the tang forms the handle, and was merely overlaid on each side with a plate of bone, wood or ivory. In one case the ivory handle ends in the head of an animal, as in examples from the Aegæan.² In another case a handle of this shape is of bronze, fused in one piece with the blade (fig. 258). Other bronze handles end in a segment of a circle or in a ring. Not least important is the flat bronze tang, flanged

¹ Evans, A. J., *The Prehistoric Tombs of Knossos*, fig. 76.

² e. g., from the Dictæan cave in Crete.

at the edges and set with two plates of bone or ivory (fig. 257). It is a form common on swords of Central Europe and Northern and Central Italy, where it is by some held to be native (see p. 348). The discovery of this type in Sicily and Crete may be thought to leave this judgement rather uncertain. The question is not yet definitely settled, and it may be that, despite the similarity of the handles, the sword and dagger have different origins.

The form of the Sicilian razor is peculiar to the island ^{e. Razors.} (fig. 259). At Grammichele, however, occurs a rectangular form which is not uncommon in Italy, whence it was perhaps imported (fig. 266).

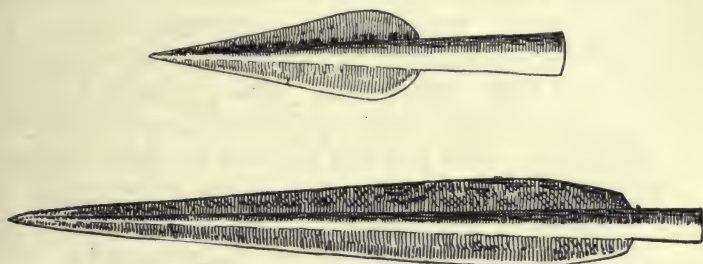


FIG. 271. Bronze spearheads. Scale c. $\frac{1}{4}$.

Two types of spearhead are common (fig. 271). Both ^{f. Spearheads.} are of the socketed form. But in one the blade is of about half the length of the socket, in the other it is nearly as long. In the latter we usually find two holes pierced in the foot of the blade to secure the fastening on to the shaft. This latter form is absent in Italy, but a somewhat similar type occurs in the Late Minoan III graves at Zafer Papoura, though without the holes. It is probable that the Sicilian examples are taken from models imported from the Aegaeon, a hypothesis which on chronological grounds is very reasonable. The former type is of universal distribution. Here, again, we find in the bronze age a weapon which in Italy does not appear until the end of the *terramara* period, and has its full development only in the iron age.

The fibulae of the period may be divided into the following ^{g. Fibulae.} types :—

1. *Violin-bow*. This occurs in three forms, either with a knob at each end of the bow (fig. 255), or with a flattened piece in the middle, or with a high bow of thin wire.

The former shape is found at Cozzo Pantano and is perhaps an importation. The two latter come from Badia, and are probably a little later, the bow rising a little towards the clasp end, so that pin and bow are not quite parallel.

2. *Serpeggiate con gomito*. This appears first at Cozzo Pantano, and is common at Cassibile (fig. 246). It is a form which develops out of the violin-bow shape. In very advanced forms it is found at Bologna in the graves of period Benacci II, and in the *fonderia* di San Francesco. But outside Sicily I know no example whatever of the simple form.

3. *Harp shape*. This resembles the last, and is undoubtedly a stage between it and the original violin-bow (figs. 244 and 245). This occurs in the geometric tombs of Kavousi in East Crete. Fig. 245 is also called a *gomito*.

4. *Arched bow, often with two knobs at the sides* (fig. 256). The form with two knobs is of very wide distribution. In Italy it occurs in the transition from the bronze to the iron age at Tolfa and Allumiere. In Crete we find it in the geometric tombs of Kavousi and Moulianà. It also occurs at Assarlik in sub-Mycenaean graves, and in Central Europe. In many cases (once in Sicily) the bow is straightened out at the end so as to descend vertically to the clasp; the flattening of this straight portion leads to the true geometric fibulae with large incised catch-plate.

The simple bow without knobs is widespread in Italy and the Aegean. The earliest examples are perhaps those of the sub-Mycenaean graves of Salamis. Thera, Aegina and the Argive Heraeum have given examples.

The bow is sometimes thickened slightly in the Sicilian examples. In one case, in the bronze hoard of Giarrotana, it is quite thick, as in so many Italian types.

5. *Arched bow, wire twisted like a rope*. This is a favourite shape in the Aegean, for example at Thera, Kavousi and the cave of Psychro.

6. *Arched bow vertically flattened*. This type is also found at Kavousi, the Argive Heraeum and in Cyprus.

7. *Bow flattened horizontally to form a bent leaf shape* (fig. 242). Occurs in Italy and at Kato Zakro in Crete.

8. *Bow made of squared wire* :

(a) With edges horizontal and vertical.

(b) With edges turned through an angle of 45° .

Form *b* is known at Kavousi and at Kition in Cyprus.

9. The *serpeggiante ad occhiello*, which occurs in the later graves of the period, belongs to Period III (fig. 243).

All the forms described may be ornamented with fine incised work, as, for example, figs. 255 and 256. The catch-plate is in all cases short and never takes a spiral form.

The question of the provenance of the fibulae found in Sicily in Period II is difficult and of great importance. It is important because on it depends in part the answer to the question what were the main currents acting on Sicily during the period. The vases and some of the swords prove the presence of strong Aegaeon influence; do the fibulae merely corroborate this, or do they prove something new?

It is usually stated that the violin-bow fibula in Sicily, the earliest form that appears, is a Mycenaean import.¹ Now it may be true that it was brought into Sicily from some Mycenaean centre, but it is far from certain that it is a Mycenaean product. We have, indeed, at Mycenae the ordinary violin-bow form, the same form with flattened bow, and also with a wire spiral disc beyond the catch-plate. But so far all the evidence points to the fact that the Mediterranean peoples, among whom are the Mycenaeans and the Cretans, did not wear a garment which demanded a fibula to hold it, but a closer-fitting garment, probably developed out of the loin-cloth. On the other hand the great race who, towards the end of the bronze age, pressed southward from Central Europe, seem to have worn a loose garment caught up by a pin or fibula at the shoulder.

Thus, at present, to say that the fibula was invented in the Mycenaean world is an unwarranted assumption, not even backed by probability. It has been suggested that it had its origin in the Balkans, perhaps somewhere near the top of the Adriatic, and that it was from here that it

¹ Cf. Colini, *B. P.*, xxx, pp. 260-3.

reached the Italian *terremare*. It certainly seems very unlikely that the *terramara* examples came from Mycenae direct, for Mycenaean influence in North Italy in this period is by no means proved.

How did it reach Sicily? As far as Sicily is concerned we cannot speak definitely about the fibula. It is tempting to believe, as many do, that it was actually brought by the ships that brought the vases, but it is only a hypothesis. We must be quite prepared to find that it came from quite another source, perhaps the Adriatic coast of the Balkans. Further excavation alone can decide. What is less uncertain is that, once arrived, the fibula was adopted and imitated by the Sicilians, who probably even developed special forms of it for themselves.

3. Ornaments. Besides articles of use the period is rich in articles of ornament and luxury.

a. Gold rings. The gold rings of Pantalica, Cassibile, Dessucri and Caltagirone are probably derived from originals of Aegaeon provenance. All are very thin and light in type, and have no exact parallel in the Mediterranean. The pattern of intertwined curves on one of the Caltagirone examples is, however, clearly Mycenaean in origin. Other rings, made of bronze, are probably of native manufacture. Those made of thin wire and found on the skulls of several skeletons at Thapsos may be ear-rings. The same cemetery also yielded two bronze bracelets of simple type. At Grammichele rings and bracelets were not uncommon, and one of the latter is of spiral form, with four coils, and fine incisions on the outside face.

b. Bronze mirror. Under this head may be mentioned the bronze mirror from Pantalica, which is certainly an Aegaeon import. The mirror probably reached the Aegaeon later than the date of the Mycenaean shaft-graves. In the lower town of Mycenae and in the Knossian tombs it is not uncommon.

c. Pendants. Among ornaments, too, must be placed the model axes of bronze, already known in the First Period, and generally worn as pendants. The other pendants of Period I consisting of discs of stone perforated at the centre have now almost disappeared and their place is taken by imported

articles from the Aegæan. These include pierced discs of ivory and beads of glass-paste. The beads are of various shapes known in the Aegæan (fig. 272), and were worn in the form of necklaces. The ribbed bead (fig. 272), for example, occurs both at Knossos, in pit-cave No. 66,¹ and also in tomb 66 at Enkomi;² and indeed almost all the Sicilian forms can be paralleled. Some of the Sicilian beads are of amber, but we cannot say whether the material came to Sicily direct or by way of the Aegæan; probably the latter.

To the Aegæan may also be ascribed an ivory comb from Plemmirio with a false-running spiral pattern upon it. At Grammichele is a very similar comb with two rows of incised concentric circles.



FIG. 272. Beads of glass-paste. Scale $\frac{1}{4}$. (After Orsi.)

Finally we must mention, whether as ornaments or objects of ritual significance, the clay miniatures of vases and chairs found at Thapsos. In the same cemetery occurred also two clay human figurines and the head of an animal.

The pottery of the Second Siculan period may be divided into seven kinds. The ordinary rough ware, which was of course in use in all the stations, is usually of a dark grey colour, occasionally burning to yellowish- or greyish-red. This ware, as we shall see later, preserves in a great measure the tradition of the neolithic and First Siculan periods, though towards the end of the period it begins to assume new forms.

In three of the coast cemeteries occurs an unusual type of ware. The clay is reddish-yellow throughout and the surface, which in cases shows signs of polish, is now mainly rough. Only two shapes occur, figs. 220 and 221, the

¹ Evans, A. J., *The Prehistoric Tombs of Knossos*, fig. 81 a.

² Murray, Smith and Walters, *Excavations in Cyprus*, fig. 305.

latter being exactly like the top of the former. No other shape is found. It is also significant that these two shapes never occur in any other clay. The ware is only found at Milocca, Cozzo Pantano and Thapsos. Nevertheless, it does not seem to be imported, for the incised work round the rims has its origin in neolithic times and is found at Villafrafrati.

3. Mycenaean ware.

Mycenaean ware occurs in the coast stations, Thapsos, Milocca, Molinello, Cozzo Pantano and Girgenti, and at Caltagirone in the interior.

The more usual forms are four :

1. Three-handled *amphora* (fig. 230).
2. High-footed *kylix* (fig. 224).
3. Low *pyxis* (fig. 229).
4. *Bügelkanne*.

The forms will be recognized as typical of the period of the lower city at Mycenae, or of the cemetery of Zafer Papoura at Knossos. The ornament is also late, in some cases showing natural forms highly conventionalized, in others being purely geometric. An *amphora* from Milocca, Grave I, shows, however, a much more naturalistic design. Comparing it with the Cretan series, it would be placed at the end of the Palace Style, i.e. quite at the end of Late Minoan II. Keeping in mind the presence at Plemmirio of the true Mycenaean rapier, which occurs on the Acropolis at Mycenae but not at Zafer Papoura, I should place the first grave of Milocca within those two limits, considering the vase in question to be the earliest of the Mycenaean series in Sicily. See, however, p. 434, note 3.

4. Incised grey ware.

Fine grey ware is practically confined to the stations of the coast, Plemmirio, Molinello, Cozzo Pantano and Thapsos (figs. 232-9). In the north cemetery at Pantalica there is one fragment, while at Cassibile it is entirely absent. The surface is a fine grey-black, and the ornament consists of simple relief work, or incisions. The designs are usually elementary. Often they consist in parallel groups of two, three, or four lines, running down the vase. Round the rim are sometimes double festoons. Vertical bands hatched or filled with points, are not rare. Exceptionally, we

find attempts at animal figures, a bird, for instance, or a man. Relief-work occurs in the upper half of the tall-footed basins, and consists of graceful curves, which merge into the pointed handles.

Among the shapes the most striking are the high-footed basins, which form part of the burial furniture of every grave (fig. 273). They show great variation in size and form. Next to these come a number of jars, with low and wide necks, and handles pointing upwards. Another

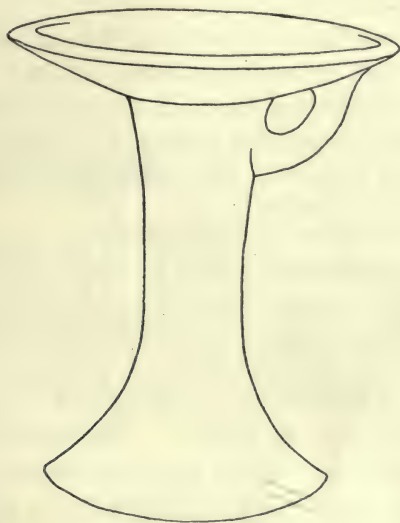


FIG. 273. High-footed basin, Cassibile. Scale $\frac{2}{3}$ (After Orsi, *Mon. Ant.*)

form of jar has a narrower and often higher neck, with two horizontal handles. Other shapes are the narrow-necked jug, the high-handled open cup, the basin or ladle (fig. 234), and the *pyxis* (fig. 267). A strongly marked feature is the handle found on the ladle or the high basin, rising to two points at the top (figs. 234, 238). To this must be added the beak for pouring out, sometimes furnished with a filter, sometimes made in the form of a thin tubular spout. Many of the small jars are provided with lids, sometimes discoid, sometimes in the form of a segment

of a sphere. The latter form is a characteristic of Caltagirone.

5. Red-polished ware.

A kind of red-polished ware occurs very commonly in the earlier, and occasionally in the later cemeteries of Pantalica, and also, though not so abundantly, at Caltagirone and Monte Dessucri. The body of the vase is completely covered with a brick-red slip, and the surface is then polished, as Orsi thinks, with some forms of wax or resin. The vases are sometimes left plain. In other cases they are fluted vertically, or incised with vertical groups of several parallel lines (figs. 260-4).

The high-footed basin occurs, as in the grey ware (fig. 261), but its upper half is nearly globular and it is not so open at the top. In addition we find the pear-shaped *amphora* (figs. 260, 264), sometimes with a long narrow neck, the pear-shaped jug (fig. 263), the *askos* (fig. 262), and a series of small saucers or basins.

Orsi suggests that the technique of this ware shows an attempt to imitate the bright surface of imported bronze vases. But we should have expected such imitation to occur on the coast where, as Orsi himself holds, the foreign imports were much more frequent. He also reminds us of the fine red-faced ware of the bronze age in Cyprus, but he does not press the point.

6. Feather-pattern ware.

We come next to a curious type of pottery for which it is difficult to find a name. The ground of the vase is covered with a dirty white or yellowish slip. On this are painted, as with a feather or thick brush, rough curves in red or brown. They are arranged sometimes to form a palm-tree pattern, sometimes, inside bowls, to resemble a pin-wheel in motion, sometimes quite at random, with the sole object of covering the surface. Finally, the vase is polished with wax or resin (figs. 247-8).

This ware is without rival at Cassibile. In the later cemeteries of Pantalica it is common; at Monte Dessucri and Caltagirone it occurs sparsely. It is found at Badia, and has not quite disappeared at Finocchito. A *terminus a quo* is given by the appearance of a fragment at Cozzo Pantano.

Orsi has suggested that the palm-tree pattern (fig. 247) was suggested by Mycenaean models. But in the first place it resembles no Mycenaean pattern, and in the second place the whole series of patterns, not very varied, is as utterly conventional as it can be. It seems much more likely that the style originated accidentally in the red-faced Pantalica ware. The painter roughly smearing on the red pigment with a feather or brush made an art of carelessness, and thus evolved a new type of ornament. At least, it is certain that between the two types of ware no difference of colour or polish can be detected.



274



275

FIG. 274. Jug with design in red on ochre, Pantalica. Scale $\frac{1}{6}$. (After Orsi, *Mon. Ant.*)

FIG. 275. *Askos* with geometric decoration, Pantalica. Scale $\frac{2}{9}$. (After Orsi, *Mon. Ant.*)

In the north cemetery at Pantalica are two vases with geometric painted ornament. One is a jug, painted in red-brown on orange (fig. 274). On the shoulder is a motive of suspended 'wisps', which suggest the suspended semi-circles of sub-Mycenaean geometric ornament in Cyprus and Crete. The vase is undoubtedly either imported or copied from a foreign model.

The other vase is a cup, apparently of potter's clay. Inside it are painted a cross and a row of festoons. It

7. Geometric ware.

probably belongs to the as yet little known sub-Mycenaean period.

In the same case with these is an *amphora* of Pantalica type with a few red bands on a yellow ground. It may have come from one of the later cemeteries at Pantalica. In any case it illustrates the earliest beginnings of Sicilian geometric ware.

At Pantalica (South and Cavetta) occurs the *askos* (fig. 275) with triangular decoration on the shoulder, which Orsi suspects is of Cypriote origin. It also occurs in the Third Period at Finocchito.

At Caltagirone we find a simple rather globular jug with trefoil mouth, with hatched triangles on the body. One of the Caltagirone examples is of very rough ware and may have been a local copy of an imported model such as the other.

The geometric painted ware of Pantalica (South) belongs to the true Third Period and need not be discussed here. It is closely connected with the Greek geometric wares (Dipylon &c.), and is of a different type to that which we are here discussing.

As for the chronological order of these various wares the evidence seems to point to the following chronological succession :—

1. Rough grey ware, all periods.
2. Yellow-faced ware.
3. Fine grey ware, usually incised.
4. Mycenaean ware.
5. Red-polished ware.
6. Feather ware.
7. Early geometric ware.

The first four are contemporary. The fifth is more advanced, while (6) and (7) mark the beginning of the transition to the Third Sicilian period.

The accompanying table shows the distribution of this pottery in the various stations.

Station.	Period.	Type.	Yellow-surface ware.	Fine grey ware.	Mycenaean ware.	Red-polished ware.	Feather-pattern ware.	Geometric ware.
Milocca . . .	Early 2	Coast	++		—			
Plemmirio . .	Early 2	Coast		+				
Cozzo Pantano .	2	Coast	+	+	—		=	
Thapsos . . .	2	Coast	—	++	++			
Pantalica, N. .	2	Mountain		=		++		—
Caltagirone . .	Late 2	Mountain		=		+	=	+
Cassibile . . .	Late 2	Mountain?						
Dessueri . . .	Late 2	Mountain		=		—	—	
Pantalica, S.)								
„ Filipoorto)	Early 3	Mountain				+	++	+
„ Cavetta)								

= signifies very rare.
— „ not common.
+ „ not unusual.
++ „ very common.

It is now necessary to deal with a question of which Who were the Siculans of Period II? mention was made in Chapter IX, the question as to the words *Sicani* and *Siculi*, and the races of Orsi's Sicilian Period II? periods. The problem is this. What is the distinction *Siculi* and *Sicani*. between the peoples known to the ancient writers as *Sicani* and *Siculi*? Were they two races of which one succeeded the other in Sicily, and if so, which of Orsi's periods are to be given to the *Sicani* and which to the *Siculi*?

Those who desire to study the literary evidence in full Tradition. will find it excellently discussed in Freeman's *History of Sicily*, vol. i, note 4. Here I shall only quote those passages which bear more directly on the archaeological side of the question.

Thucydides, after refusing to deal in legends of *Kyklopes* 1. The *Sicani*. and *Laistrygones* in Sicily, proceeds as follows (vi. 2):—

‘The Sicanians appear to have succeeded these early Thucydides. races, although, according to their own account, they were still older; for they profess to have been children of the soil. But the fact proves to be that they were Iberians, and were driven from the river Sicanus in Iberia by the Ligurians. Sicily, which was originally called Trinacria, received from them the name Sicania. To this day the Sicanians inhabit the western parts of the island.

‘The Sicels were originally inhabitants of Italy, whence

they were driven by the Opici and passed over into Sicily . . . There are Sicels still in Italy. . . . They entered Sicily with a large army, and defeating the Sicanians in battle, drove them back to the southern and western parts of the country; from them the island, formerly Sicania, took the name of Sicily. For nearly three hundred years after their arrival, until the time when the Hellenes came to Sicily, they occupied the most fertile districts, and they still inhabit the central and northern regions.' ¹

The main statements then are these. (1) The *Sicani* and *Siculi* were distinct even in his day. (2) The *Sicani* are immigrants from Iberia. (3) the *Siculi* are immigrants from Italy.

Philistus
and
Ephorus.
Dionysius.

Philistus, quoted by Diodorus,² supports the story of Iberian origin, whereas Ephorus, quoted by Strabo,³ speaks of *Iberi* and *Sicani* as distinct in the island. According to Dionysius⁴ the *Sicani*, γένος Ἰβηρικόν, had been but a short time in the island when the *Siculi* arrived; and, finally, Pausanias⁵ seems to imply that both *Sicani* and *Siculi* came from Italy.

2. The
Siculi.

With regard to the *Siculi*, Thucydides, Philistus and Hellanicus agree in bringing them over from Italy.

Hellanicus.

Hellanicus, whom Dionysius quotes,⁶ gave two migrations from Italy into Sicily, first that of the Elymians, and second that of the Iapygians under King Sikelos; the latter immigration took place five years after the former, in the third generation before the Trojan war.

Philistus.

Philistus dates the immigration eighty years before the Trojan war and calls the immigrants Ligurians.⁷

Dionysius.

Coming to later tradition, we have first the remarkable statements of Dionysius.⁸ Firstly, he tells us that the earliest known inhabitants of Rome were the *Siculi*, an indigenous people. These, he continues, are driven out of Rome by *Pelasgi* and *Aborigines* (?), and he adds the valuable statement that there was still in his day a quarter in Tibur called μέρος Σικελίων. Finally, the *Siculi* after wandering over the whole of Lower Italy, and being repulsed every-

¹ Jowett's translation.

² v. 6.

³ vi. 2. 4.

⁴ i. 22.

⁵ v. 25. 3.

⁶ i. 22.

⁷ ap. Dion., i. 22.

⁸ i. 9.

where, cross into Sicily, and settle first in the West and then in many other parts.

Diodorus¹ brings the *Siculi* over from Italy in a body to occupy the Etnaeae country deserted by the *Sicani*, who, terrified by eruptions of the mountain, had fled to the West of the island. Diodorus.

Finally, we have the Roman tradition of *Sicani* and *Siculi* in Italy itself. Sicani and Siculi in Italy.

Vergil in several passages (*Aen.* vii. 795; xi. 317; viii. 328) speaks of *Sicani* in Italy, but his evidence is almost worthless, as it seems certain that both he and his commentator Servius confused *Sicani* with *Siculi*. Pliny² includes the *Sicani* among the tribes who assembled on the Alban Mount. Vergil.

We have much surer evidence for the *Siculi* in Italy. Pliny gives the *Siculi* as one of the peoples of South Italy,³ while Dionysius applies the epithet Sikel to several Italian towns, including Falerii and Crustumium.⁴ Festus⁵ has the well-known tale of the *Sacriani* of Reate, who expel the *Ligures* and *Siculi* from the *Septimontium*. Varro⁶ explains a presumed similarity between Roman and Sicilian words by the remark 'a Roma quod orti Siculi, ut annales veteres nostri dicunt', and we have already quoted Thucydides' remark that in his day the *Siculi* still lived in Italy in Calabria. Dionysius; Festus.

From all this mass of rather tangled evidence certain points stand out clear. Firstly, tradition and observation distinguished two elements in Sicily, viz. *Siculi* and *Sicani*. Secondly, tradition connected the *Sicani* (the earlier of the two) with the name Iberian. Thirdly, tradition insisted on an invasion of Sicily by *Siculi* from Italy. Fourthly, observation showed that *Siculi* still lived in Calabria in Thucydides' time, and tradition affirmed them to have also lived in Latium and on the site of Rome. Summary of this evidence.

It is the work of the archaeologist to inquire whether the evidence at his disposal supports in any degree the accuracy of these traditions. Archaeological evidence.

¹ v. 6.

² N. H., iii. 9.

³ N. H., iii. 10.

⁴ i. 21; ii. 35.

⁵ § 321.

⁶ L. L., v. 101.

Sicani
and *Siculi*
in Sicily.

No direct
connexion
with
Spain in
Stenti-
nello
period.

Were the
Villafrati
people a
Spanish
folk ?

Origin of
the tradi-
tion.

Let us start with the question of the connexion of the *Sicani* with the word Iberian. The *Sicani*, being, as all agree, the first inhabitants of the island, must be identified with the people of Stentinello and Matrensa. Now the archaeological evidence is against any direct connexion of these people with Spain, which is the country meant by the Iberia of the tradition. Their affinities are rather with the Aegæan and perhaps North Africa. They are not the people from the river Sicanos in Iberia.

But in the more western part of Sicily, near Palermo, we have signs of a civilization rather akin to that of the dolmens and rock-graves of the Spanish peninsula. Are these the *Sicani*? We note in the first place that they cannot be the *Sicani* of tradition, who are the 'first dwellers in the isle', for their civilization is later than that of Stentinello. Nor can we *prove* that they were immigrants at all. The similarities with Spain are due to that great wave of influence which affected the coast districts of all Western Europe, bringing with it dolmens and dolmen pottery. That it was accompanied by immigration is probable, though we have as yet no evidence for it in Sicily.

May not the origin of the tradition lie rather in the ancient confusion between Iberians and Ligurians, two names given to the immigrants into Spain and Italy in the neolithic age. And is it not possible that the Stentinello folk, who, we have tried to show, reached Sicily without traversing Italy, were recognized as another branch of the Italian stock (*Liguri*), and therefore confused with the *Iberi*. Thus would arise the tradition that the *Sicani* were *Iberi*, which at first did not mean that they came from Spain, but merely that the *Liguri* saw in them a likeness to, and withal a difference from, themselves. Then follow naturally the error of supposing that they came from Spain because called *Iberi*, and the invention of a Spanish river Sicanos to clinch the matter.

Such might well be the explanation of the tradition, if indeed it is worth trying to explain. There is certainly little room for it in the region of archaeological fact.

We now come to the more important question of the invasion of *Siculi* from Italy. If this tradition is true we ought to be able to distinguish two very different types of remains in Sicily, for the *Sicani* and *Siculi* are, according to the tradition, of different origin. Moreover, we ought to find, at some period of pre-history in Sicily, a sudden change due to this immigration, and, what is more, the new material (Siculan) in Sicily ought to resemble that left behind in Italy by the emigrants.

It may be said at once that none of these conditions seem to be satisfied. In the early days of excavation in South-East Sicily Orsi divided the prehistoric periods into five which he called Sicanian, Siculan I, Siculan II, Siculan III and Siculan IV. That is to say, he recognized an archaeological difference between the neolithic (Sicanian) period and the eneolithic (Siculan I), corresponding to the ethnological difference spoken of by tradition. At this time he attributed these two periods to two successive immigrations of people, the earlier being the *Sicani*, an Ibero-Ligurian race, differing (*diversa*) from the later, the *Siculi*.¹ As time went on new discoveries led Orsi to modify this opinion, and in 1895² he declared the *Siculi* and *Sicani* to be two branches of the same people, or even one people with two slightly varying names.

No signs of an invasion of Sicily from Italy. No racial break between neolithic period and Siculan I. Orsi's views.

Finally, he confirms this, saying that the *Siculi* of Siculan I, identical in a more restricted sense with the *Sicani* of tradition, are a branch of the great Mediterranean stock and therefore of Libyan or Iberian race, coming from Africa and spreading thence over Sardinia and Corsica, and also into the Italian mainland, at least, its Tyrrhenian coast. He further asserts that the distinction between *Sicani* and *Siculi* is purely one of convention, and has no more than a chronological value.³

With this last statement of opinion of Orsi's, if I understand it rightly, I am inclined to agree entirely; partly because coming from the excavator himself, who alone is acquainted with every detail of the discoveries, it is of

Soundness of Orsi's later theory.

¹ *B. P.*, xvi, p. 198.

² *B. P.*, xxi, p. 84.

³ *Mon. Ant.*, ix, pp. 111-13.

Evidence
from
mainland
supports
this.

peculiarly high authority, partly because no other hypothesis seems tenable, as we shall shortly see, and partly because the result is in keeping with our observations of the neolithic age in Italy. We saw that the early neolithic civilization in South Italy was closely akin to that of Sicily and not to that of North Italy. It is therefore probable that the whole neolithic population of South Italy and Sicily immigrated into those parts by sea, probably from Africa, whereas the *Liguri* seem to have entered from the North, possibly coming from Africa by way of Spain. This view has the immense advantage of explaining how *Siculi* or *Sicani* ever came to be in Italy at all. It may be that these people at first held land as far north as Rome, though the absence of neolithic pottery there makes it impossible to say. It is not improbable that the *Liguri* kept pushing their border further to the South, and indeed I am inclined to see signs of this in the pottery of Molfetta, which in the earlier station is of southern type and in the later of northern. If this is so it may be true that South Italians under pressure from the North were from time to time forced into Sicily, but that a great immigration ever took place and altered the appearance of the civilization in Sicily is untrue, as we shall see. The double name *Siculi* and *Sicani* may well be nothing more than a local difference; possibly *Siculi* were originally the Sicilians in Italy, and *Sicani* those in Sicily. Or, more probably still, they were two names for the same folk in different parts of Sicily. Tradition certainly places the two peoples in separate regions. The confusion between the two in Italy is then natural, and whether we hear of *Siculi* or *Sicani* in Latium is indifferent. What is meant is the neolithic race of South Italy and Sicily.

Was there
ever a
racial
break in
Sicily?
If so, at
what
period?
1. Modes-
tov thinks
after the

For those who wish to make a racial break at some point of Sicilian pre-history and to carry out the tradition of the great immigration from Italy it is necessary to fix the point at which the break occurred. Modestov follows Orsi's earlier hypothesis, now abandoned by its author, and makes the chasm lie between Sicanian and Siculan I, while Patroni places it between Siculan I and Siculan II. Both these hypotheses are impossible.

To take first that of Modestov. His arguments are three.¹ Firstly, the ancient tradition distinguishes *Sicani* and *Siculi* and brings the latter from Italy; secondly, in Siculan I, we have the sudden appearance of rock-graves; thirdly, in the same period painted pottery is found for the first time. The two latter arguments are quite valueless. In the first place, both rock-graves and painted pottery appear in various parts of the Mediterranean just about this date and are therefore only to be expected in Sicily, and in the second place, in order to make the arguments valid, Modestov ought to have shown us that these rock-graves and this painted ware already existed in South Italy when the *Siculi* crossed over. Unfortunately there is no sign of the latter and but little of the former at this time in South Italy. In other words Modestov's hypothesis is left without any support beyond a set of not too coherent traditions.

Patroni's theory² puts the invasion from Italy at the end of Siculan I.³ He asserts that a new funeral rite begins with the Second Siculan period. This is not true; nothing could be more gradual than the development in the type of the burial-chamber throughout all periods. The occurrence of transition-graves such as those Valsavoia and Rivetazzo is fatal to this argument. The pottery, says Patroni, is new in the Second Period. It is true that paint disappears, but the tradition of the design is continued (see below, p. 487). It is also as well to remember that painted sherds have been found in early graves of the Second Period, e.g. at Milocca. The chronology offers Patroni another argument. The first Mycenaean influence in Sicily, he says, was brought by the *Siculi* from Italy. The earliest Mycenaean material in Sicily dates about 1300 B.C. according to Patroni, and this, he says, agrees with the literary evidence which puts the invasion eighty years before the Trojan war. But note that this is the date of Philistus and Hellanicus, and that Thucydides disagrees, putting the

neolithic period.
Modestov's view.
His evidence.
Its weakness.

2. Patroni's view.
His arguments.
New funeral rite in Period II.
New type of pottery.

Chronology.

¹ *Introduction*, p. 135.

² *Anthropologie*, 1897, pp. 129 and 294.

³ It has been successfully answered by Peterson in *Röm. Myth.*, xiii, pp. 171-4.

invasion 300 years before the coming of the Greeks to Sicily. In any case the value of such dates is infinitesimal.

The *Siculi*
in South
Italy.

Among other arguments Patroni notes analogies between the pottery of Siculan II and six vases of *uncertain origin* now at Reggio, and mentions the existence of rock-tombs at Matera in South Italy. The last is a more important point. But it is doubtful whether we can see at Matera the *Siculi* before their immigration into Sicily. In the first place the Materan graves belong to the very end of the bronze age, whereas the Siculan migration took place, according to Patroni, at the beginning of that period.¹ Secondly, the Matera graves are rectangular, a form not known in Sicily until the advanced stages of Siculan II. Finally, the beginning of Siculan II is marked by the appearance of incised grey pottery (see p. 474). Patroni has yet to show that this came from Italy. The incised and punctured ware found at Matera and Pertosa, and falsely called Siculan, has not the remotest resemblance to the incised ware of Cozzo Pantano and Thapsos, neither in technique, spirit, design nor anything else. The punctured technique almost universal in the South Italian ware is most rare in Sicily, and the maeanders and spirals of which the Italian is so fond are unknown to the Sicilian. The truth is that the two kinds of pottery in question have a totally different origin and history. Unfortunate, too, is Patroni's comparison of the raised hut-foundations of stone at Matera with that of Monteracello in Sicily, for the Materan examples are not hut-foundations at all, but graves.

Both
theories
unsatis-
factory.

Thus Patroni's attempt fails as that of Modestov did. All evidence is against the bringing in of a people from Italy to account for either Siculan I or II. We have dealt with the evidence from Italy and must now say a word as to that from Sicily itself. We have already noticed how the first three periods in Sicily succeed each other gradually and without a break, and how in certain cemeteries the transition is clearly visible; how the grave

No break
between
the
periods in
Sicily.

¹ There is little doubt that there are earlier rock-tombs at Matera, but the few which have been examined do not yield the incised pottery on which Patroni relies.

advances from the round form to the square; how at a certain point both were in use side by side; how Aegæan and North Greek influences caused changes and modifications which at first sight provoke wonder; how the placing of the dead as at a banquet continues from Siculan I to Siculan II; how the men of the Second and Third Siculan period did not object to using a grave containing burials of the First.

But perhaps the most valuable and incontrovertible evidence of all is that afforded by Petersen in his critique of the pottery of early Sicily. His method was to examine the ornamental motives of the pottery, whether painted or incised, from all three periods, Sicanian and Siculan I and II, supporting his conclusions by arguments from vase-forms and handles. The result of his research was to prove beyond doubt that the pottery of Sicily underwent a gradual development from that of Stentinello to that of Thapsos or Pantalica. His evidence cannot be given in full here and the reader must refer to *R. M.*, xiii, 175-91. I shall, however give some of his chief points, making a few additions rendered possible by later discoveries.

Firstly, the shapes of the pottery of Siculan II are either the same as, or developments of, those of Siculan I, with a few exceptions which are at once recognized as imported Aegæan forms. Note that the high-footed basin found at Castelluccio continues throughout the Second Period, sometimes preserving its open form, sometimes—and this only later—tending to take a globular form.

An example from Cassibile (Sic. II, fig. 273) is almost indistinguishable from one at Valsavoia (Sic. I, late). The globular four-handled jar so common at Caltagirone and Dessucri is a direct survival of a shape at Castelluccio. Again, the whole rich series of unpainted cups and small jugs seen first in the Castelluccio village lasts virtually unmodified down to the end of Siculan II, every necropolis giving examples of two or three of the Castelluccio forms. The large ovoid *pithos* of Monte Tabuto (I) is still in use at Cozzo Pantano (II) and preserves its characteristic ornament of clay ridges in relief (cf. fig. 232 from Thapsos).

Petersen's view.

His work on the Sicilian pottery.

I. Continuity between Siculan I and II.

a. In vase-forms.

b. In vase-handles.

The evidence of the handles points in the same direction. The trapezoid handle of Thapsos (fig. 236), is a survival of that of Castelluccio, and the Cozzo Pantano handle (fig. 222) is also found in an elementary form at Castelluccio. Another favourite handle in Siculan II consists of an inverted V-shaped ridge of clay applied to the vase so as to leave no hole between. This is a development of a Castelluccio form, as also are the scrolls of clay in relief found so often on the basins at Cozzo Pantano.

Finally, we may add the occurrence in Siculan I, II and III of the small horn-shaped objects of clay (fig. 250). This is now known to be an object with a religious significance, and therefore its occurrence in all three Siculan periods is the more remarkable.

2. Continuity between Sicanian and Siculan I.

So much for the striking similarities between Siculan I and II. We have now to compare Siculan I with the pre-Siculan or Sicanian period. Here Petersen is again quite convincing, though I think he fails to preserve the clear distinction between Stentinello and Moarda ware. The latter is surely intrusive and has little connexion with even the more developed forms of the other. Nevertheless both wares bequeathed to Sicily elements of form and ornament which lasted into the Siculan periods.

Evidence from the Palermo museum.

Had it not been that attention was too closely fixed on the east part of the island, the continuity of the Sicanian and First Siculan periods would probably never have been questioned. The Syracuse museum suggests the break between the two, the Palermo museum disproves it. In this museum lies the material from rock-graves of the First Siculan type at Naro near Girgenti, and Capaci near Palermo. The Capaci vases are incised in precisely the same manner as those of Villafrati, and one vase is smeared with red paint and may possibly mark the beginnings of the Sicilian painted ware, though it may, on the other hand, have had merely a ritual object. Both at Capaci and also at Naro, where painted ware is found, there are several vase-forms which have been handed straight down from the neolithic period. We have, both at Naro and Capaci, the conical vase on a foot which is sometimes high, sometimes rudi-

Naro and Capaci.

mentary. This, we remember, occurred at Moarda, Villafrati, and even earlier at Matrensa. Or, again, at Villafrati, we find a hemispherical vase with an inverted-conical neck and two side handles. This appears again at Naro. Besides this, we have at Naro an almost spherical vase with cylindrical neck and curious high handle, and a similar form with different handle and very high neck. Both are forms which occur at Villafrati. Finally, at Naro, we find an almost globular little *pyxis* with two lateral string-holes, an old Villafrati type, and several pointed handles of Moarda type.

But besides these similarities between stations of the two periods we have other evidence equally conclusive in at least two stations showing the transition from one period to the other. The burial-cave of Fico, near Isnello (Palermo), yielded small fragments of copper; ovoid or pear-shaped club-heads of polished stone; a bone button with converging holes; and a series of vases, including several of the forms common to Naro and Villafrati. The cave of Pietrarossa has already been mentioned (p. 201). Along with a flat celt of copper were found painted vases of Period Siculan I. Two vases from this cave, one given in fig. 74, belong to the forms noticed above as passing from the earlier period into the later.

Thus it seems clear that, just as there is no violent break between Siculan I and Siculan II, so there is none between the neolithic or Sicanian period and Siculan I. It will be noticed that the similarities to which I have pointed to prove continuity between the neolithic and the First Siculan period are drawn mainly from material of the Villafrati and not of the Stentinello type. At present I do not see that we have sufficient evidence to prove continuity between the Stentinello period and those which follow it. The pottery of the Villafrati period in fact seems to come into another context altogether, being clearly of the dolmen type, which has apparently no connexion with the Aegæan wares to which I have suggested that Stentinello ware is related. Those archaeologists who, rightly or wrongly, believe the rock-grave to be due to the same people as the

Cave of
Fico.

Possibility
of racial
break in
the Sicanian
period
itself.

dolmen, and who suppose both to have been brought to Europe by an immigration, might with some show of reason suppose such immigration to be marked in Sicily by the Villafrati period. This supposition would of course imply a sharp break between the Stentinello period and the Villafrati. As, however, I am as yet satisfied neither as to the identity of rock-graves with dolmens nor as to the presence of the latter in Sicily (despite the Monteracello discovery), I am no more desirous to assert the existence of such a break than I am to deny it. Only further evidence as to the dolmen period in general and the Stentinello and Villafrati periods in particular can make decision possible on this point.

My-
cenaean
influence
in Sicily.

We may conclude this chapter by shortly recapitulating the evidence for Mycenaean influence in Sicily. We use the word Mycenaean rather than Aegaeon because, at the period in question, the centre of power in the Aegaeon had shifted from Crete to the mainland, probably in a great measure to Mycenae. But it does not follow that what we call Mycenaean imports should have come direct to Sicily from Mycenae itself.

In close proximity to the modern town of Syracuse, and round the fine harbours in its neighbourhood, lay the Siculan settlements of Thapsos, Cozzo Pantano, Milocca and Plemmirio. Here Aegaeon ships landed and distributed to the *Siculi* the products of Mycenaean industry. But the foreigners did more than this: they apparently taught the native *Siculi* the art of building beehive tombs in place of the flat or round-vaulted chambers previously in use, and they taught them to close up the entrance with walls of heavy masonry set without mortar.

The Mycenaean vase from Girgenti¹ makes it probable that Aegaeon vessels also rounded the cape and deposited their wares on the south coast; but of this we must await further proof. In the Syracusan district they certainly did a very considerable trade, as we may see from the vases, gold rings, glass beads, ivory combs, and the bronze mirror,

¹ See *Ausonia*, 1907, pp. 9-10.

found in the various cemeteries. Whether the earlier swords were direct importations is uncertain, as we have no exact parallels in the Aegæan, and the case of the fibula must also be left open. No doubt it came from abroad, whether from the Aegæan or elsewhere we cannot say.

Of the bronze age in Sardinia we know little or nothing. It ^{SARDI-}is very probable that at least some of the *nuraghi* described ^{NIA.} in Chapter IX belong to this period, but as yet proof is lacking. That bronze was worked in the island is clear both from the blocks of raw copper found there and from the occurrence of numerous moulds. It is probable that a large number of the bronze figurines of warriors belong to this period.¹

¹ See *Mon. Ant.*, xi, Plates 11-14.

CHAPTER XVIII

THE RACIAL PROBLEM

The race question.

THE data of the bronze age in North Italy have given rise to two completely different theories with regard to the peoples to whom the various settlements are to be attributed. These two theories may be associated for convenience with the names of their two greatest Italian exponents, Pigorini and Brizio respectively. It is now necessary to explain what these two theories are, and to ask whether either suits the facts better than the other.

The data.
a. Neolithic period.

The facts to be explained are these. In the neolithic period we find in North Italy a race of people whom all are agreed to call *Liguri* or *Ibero-Liguri*, dwelling in huts and caves. They are dolichocephalic and practise inhumation. At the beginning of the bronze age, or even earlier, appear in North Italy a number of lake-dwellings, the inhabitants of which probably cremated their dead.

b. Bronze period.

Rather later we find, mainly in Emilia and East Lombardy, a number of pile-dwellings on dry land, the inhabitants of which invariably practise cremation. Among these, or near to them, we also have villages of huts containing material which is partly of *terramara* type and partly not, but as yet no burials have been found which can be connected with them.

c. Transition to iron age.

But before proceeding to discuss the question at issue we must very shortly anticipate the history of the early iron age in North Italy. At Bismantova and Fontanella Mantovana we find cemeteries which seem to mark a transition from the bronze age to that of iron.¹ The burial rite is cremation, and the ashes are placed in biconical urns similar to those sometimes used in the latest *terramara* cemeteries. The ashes, however, are more often accom-

¹ This early iron age cemetery at Fontanella must not be confused with the eneolithic cemetery near the same spot.

panied by objects than in the *terramara* cemeteries, and these objects are more advanced than those found in the *terremare* themselves, including as they do the true bow fibula (*ad arco semplice*) and the crescent-shaped razor (*rasoio lunato*).

Similar transition-graves are found among the western lake-dwellings, e. g. at Moncucco.

At a period slightly later than this, i. e. at the beginning of the iron age proper, we find in North and Central Italy six distinct groups of cemeteries. Their position and extension I have shown elsewhere.¹ They are called (in some cases after the names of their most important cemeteries) the Golasecca, Este, Villanova, Latian, Tuscan and Novilara types. In all of these except Novilara we find that the earliest iron age graves contain cremated remains, laid in urns usually of the type called Villanova, a type which many believe to be a development of the biconical ossuary of the late *terramara* cemeteries and of Bismantova. In the group which takes its name from Novilara the old neolithic custom of inhumation continued. The whole of the culture represented by these groups, setting aside that of Novilara, is usually included under the name Villanova. This name has been adopted because Villanova near Bologna was the first place at which this type of early iron age cremation cemetery was studied. At the same time it must be remembered that each group shows considerable local differences which serve to distinguish it very clearly from the rest.

Villanova
period.

Such are the facts with which we have to deal. We now proceed to examine the two theories held with regard to these facts, giving, where possible, the original words of their chief advocates, Pigorini and Brizio.

The
theories
of Pigo-
rini and
Brizio.

I take first that of Pigorini, which I hope eventually to show to be the only one tenable. It may be briefly summed up as follows :—

1. Pigo-
rini.

The hut-villages and caverns of the neolithic age in North Italy were inhabited by a dolichocephalic race (called usually *Ibero-Liguri*) who inhumed their dead. At the end of the neolithic age a new race appeared in

a. The neo-
lithic
people.

¹ B. S. R., vol. iv, Pl. XXXVIII

North Italy, a race of Aryan stock, which cremated its dead.

b. Invasions of the bronze age people.

This race planted the first lake-dwellings in Lombardy. In the full bronze age another invasion of the same stock took place and covered the east part of North Italy, planting the lake-dwellings of the Veneto and the *terremare* of Emilia. These people did not exterminate their predecessors, who continued to live side by side with them in huts and caverns, preserving much of their old civilization, but also imbibing the new culture. At the end of the bronze age part of the new people deserted the Po Valley, crossed the Apennines, and entered Tuscany and Latium. It is to this new people, which Pigorini calls *Italici*, that the five groups of early iron age cemeteries are due.

c. Spread of this folk.

Pigorini's statements quoted.

In order to avoid all possible misunderstanding, the chief passages in which Pigorini explains his theory are quoted. In *B. P.*, xxix, p. 200, he says (I abridge the passage slightly)—

a. The lake-dwellers enter Europe.

‘At the time when the neolithic people on the edges of the European continent were building dolmens and hollowing artificial burial-chambers in the rock, a remarkable event was happening in Central Europe.’ From Wurtemberg and Savoy to Bavaria and Austria were being planted in the lakes the earliest lake-dwellings. Their inhabitants combined the flat celt of copper with weapons of stone, and the earliest settlement therefore corresponds with the end of the neolithic age; but there is nothing to induce us to derive these people from those previously living in Europe. On the contrary ‘this sudden change of scene in the heart of Europe reveals without doubt a new race, which must have arrived by way of the Danube Valley, tempted by the long stretch of lakes. Around them the old people remained independent, and it was these who left the evidence of their uninterrupted supremacy in the megalithic monuments, which, especially in the North, continued for a long time to be erected.’ ‘But the barrier of the Alps did not limit to the South the empire of the new-comers, who descended into Lombardy and occupied its marshes and lakes, with their chief seat perhaps on Lake Varese. In those days

b. They invade Italy.

Italy and the islands were thickly populated with people of different origin' (from that of the new-comers), 'some of whom possessed the neolithic civilization, others, and these more numerous, having that marked by the use of copper.'

This first invasion of Italy by pile-dwellers gradually enlarged its borders, reaching Ivrea in the West and the river Chiese in the East, though to the South it never reached the Valley of the Po. Its further expansion was in fact prevented by the arrival in Italy of another branch of the same race.¹ This people reached Italy not, as their fore-runners, from the North over the Alps, but from the East. Their route had lain along the Valley of the Danube. Arrived in Croatia, Moravia and Lower Austria, they had spread out like a fan, some penetrating into Bosnia and others into what is now North-East Italy. Here they first settled on the lakes, and, when these proved insufficient for their numbers, spread into the provinces of Mantua, Brescia and Cremona.² Finally, they crossed the Po and planted their dwellings right up to the foot of the Apennines.

c. They spread in Italy.

d. Second invasion of Italy.

The exact form in which the division between the eastern and western lake-dwellings is here given we have already seen reason for doubting. This point is, however, quite unessential to the theory taken as a whole.

These quotations only take us into the bronze age. In *Bull. Pal.*, xxi, p. 39, Pigorini continues his theory in very clear words.

'For me not only the *terramara* folk but also the people to whom belong the tombs of Villanova type are *Italic*i. Between the one people and the other there is no difference except that of date. The former lived in the age of bronze and the latter in the early iron age. Thus the *Italic*i of the Villanova period cannot be said to have descended from somewhere and occupied the lands of the *terramara* folk, for they are the *terramara* folk themselves in a later and more advanced state of civilization. No one in Italy has even imagined that the *Italic*i of the later (Villanova ?) period lived in pile-dwellings, for the simple reason that there are at present no facts in support of such an assertion.

e. These last invaders are the people of the *terremare*, and later of the Villanova culture.

'My idea is as follows. The *Italic*i who occupied the lake-dwellings of the Veneto and the *terremare* left the Po

f. They invade

¹ loc. cit., p. 202.

² loc. cit., p. 203.

Latium
and
Etruria.

Valley, though only in part, at the end of the true bronze age, to cross the Apennines. The passage took two directions. One immigration, apparently the earlier, followed the mountain pass, arrived in the Sabine country, from which it descended to the Alban Hills and the left branch of the Tiber, where it founded Rome. The other immigration made for Etruria, and spread as far as the district of Tarquinia.

g. Later
develop-
ments in
the Po
Valley.

'The districts of Upper Italy were abandoned by these people in the following order—the Veneto, Eastern Lombardy, and Western Emilia as far as the Panaro. The district, however, lying between the Po, the Panaro and the Adriatic, was never abandoned by the *Italici*, as is proved by the long series of their cemeteries belonging to various periods of the early iron age, reaching from Savignano in the Modenese to Verrucchio in the district of Rimini, and having their chief centre at Bologna.

'The lands on the left bank of the Po and in Western Emilia, whence the *Italici* emigrated, did not remain uninhabited but were *gradually* occupied by the inhabitants of the neighbouring districts. Thus in the Veneto the habitations and cemeteries of the *Italici* are succeeded by graves of Illyrian type which are to be connected with those of Istria, Styria and Carinthia, while in the provinces of Mantua, Parma and Reggio they are followed by tombs of the type usually found in the district of Milan and Lodi.'

2. Brizio.

Brizio's theory is, shortly expressed, as follows. The huts and caves of North Italy were inhabited in neolithic times by a dolichocephalic race which inhumed its dead. At some period still in the neolithic age some at least of these *Ibero-Liguri* adopted the habit of living in pile-dwellings, either in the lakes or on dry land. Thus all the lake dwellings and *terremare* are due to the old neolithic people of the huts and caves. Hut-settlements such as Castellaccio and Bertarina, which by Pigorini are attributed to the *Ibero-Liguri* under the influence of this new *terramara* folk (*Italici*), mark, according to Brizio, a transition stage between the earliest hut-villages and the *terremare*. In the district lying to the West of the river Panaro he thinks that the *terremare* lasted almost down to the fifth century B. C. But the territory east of that river was at a certain period occupied by northern invaders, the *Umbri*, who also occupied

a. Lake-
dwellings
and *terre-
mare* built
by the old
neolithic
folk.

b. The
northern
invaders,
the *Umbri*.

the Veneto, and who lived in hut-villages and practised cremation. They eventually spread into Latium and Tuscany. In Emilia both the *terramara* folk and the *Umbri* were conquered by the Etruscans at the beginning of the fifth century B. C.

The following quotations, mainly from Brizio's *Epoca Preistorica*, will help to make clear the details of his theory. Quotations from Brizio.

Speaking of the change in the method of living of the *Liguri* he says :¹

'The reason why the hut-dwellers, especially those of the Po Valley, gave up their primitive half-subterranean dwellings is easily found in the fact that the ridges on which the huts stood, being surrounded on every side by running water, were easily and often subject to floods. . . . Each flood would have the effect of lowering the level of the ridges and raising the bed of the streams which surrounded them, thus rendering inundation easier and more frequent. It was to avoid these inconveniences, which repeated themselves with increasing frequency, that families of hut-dwellers had to abandon their early homes and establish themselves in the midst of lakes.'

a. The change from huts to lake-dwellings due to floods.

As to the period at which this change took place we may quote the following:²

' . . . the lake-dwellings of the Veneto ' (as well as of Lombardy) ' were founded for the most part in the neolithic age, and, arguing from that of Fimon, by a people in the same state of civilization as that of the caverns and huts.'

b. Some lake-dwellings are of neolithic date.

Of the lake-dwelling of Pacengo in Lake Garda he says :³

'The lake-dwelling goes back, as do those of Lombardy, to the stone age. But it lasted very late, up to about the end of the sixth century B. C.'

c. Lake-dwellings still in use in sixth century B. C.

'The lake-dwellers of Lake Varese continued for some time to live in their primitive lake-villages.⁴ Only later, when they had come into contact with the new Umbrian peoples, who probably introduced a new kind of habitation, did they abandon them, and even then perhaps not all of them, to go back to living in villages on dry land. The same fate must have befallen the inhabitants of the eastern

d. Reasons for abandonment of lake-dwellings.

¹ *Ep. Preist.*, p. xlii.

² *op. cit.*, p. li.

³ *op. cit.*, p. liii.

⁴ *op. cit.*, p. lvi.

lake-dwellings, who continued to live in lake-settlements even after families of Umbrian stock had settled in other parts of the district, that is to say in the lands around Este.'

e. Duration of *terremare*.

'I think that in the case of the *terremare* the fact already noticed in connexion with the lake-dwellings of Lombardy and the Veneto repeats itself, that is to say, they lasted, always inhabited by their primitive builders, until they came into contact with other peoples who invaded the Po, i.e. first with the Umbrians and then with the Etruscans.'¹

f. Burial rite of *terramara* folk.

'The *terramara* folk at a relatively late period practised only cremation; previously they had had a mixed rite of inhumation and cremation, and earlier still they preferred inhumation, burying the dead with his arms and ornaments.'²

g. Reason for the change of rite.

'The reason why these Liguri changed their primitive rite of inhumation for that of cremation is to be sought in the relations which sprang up at the end of the age of stone between them and other peoples, who immigrated into Italy at that time, and who, together with the use of bronze, brought the exclusive rite of cremation.'³

h. *Terremare* and hut-dwellings due to a single people.

'Since there exists a bond, a continuity and succession of civilization between the hut-dwellings and the *terremare*, it stands to reason that both should be attributed to the same people, the more so as the special form of the true *terremare* was a necessary consequence of the places where they were built.'⁴

The following passages relate to the invasion by the new people, the *Umbri* or *Umbro-Latini*:—

i. The invaders, the *Umbri*.

'The *Umbro-Latini*, having become masters of new territory, allowed a few tribes and villages of *Liguri* to remain here and there, especially around Bologna, and, recognizing the Panaro as the western limit of their possessions, spread towards the East and the South.⁵ Eastward they reached Rimini; to the South they crossed the Apennines, occupied not only the whole Mediterranean district from the Arno to the Tiber, but reached Latium and the Alban Hills, where they founded Alba Longa.

j. Influence of *Umbri* on *Liguri* of *terremare*.

'The *Liguri* on the other hand, now outnumbered in the Bolognese territory, became absolute masters of all the vast region from the Panaro to the Trebbia, and there remained until historical times. During this long period both the *Liguri* of the Bolognese and those across the Panaro accepted certain elements of culture imported from

¹ op. cit., p. lxxix.

² op. cit., p. xci.

³ op. cit., p. lxxxv.

⁴ op. cit., p. lxxxvii.

⁵ op. cit., p. xcii.

the *Umbri*, including agriculture and the use of metals, and in order to conform better to the more civilized customs of the *Umbri* gave up their primitive rite of inhumation in the contracted posture to adopt that of cremation.'

'The two civilizations, that of Villanova and that of the *terremare*, advanced contemporaneously for several centuries, each in its own district, until both were suppressed by the Etruscans in the fifth century B. C.'

k. *Terremare* contemporaneous with Villanova civilization.

Finally, two quotations as to the original home of the *Umbri*. Some years ago Brizio spoke of the *Umbri* 'coming from the same cradle in Asia from which the *Liguri* had perhaps broken off, though many centuries before'.² In *Epoca Preistorica* the *Umbri* are spoken of as 'having settled in Central Europe and especially Hungary, where metal-working rose and flourished early'.

l. Original home of the *Umbri*.

The difference between the two theories may be expressed as follows. Pigorini brings in a new race, the *Italici*, at the beginning of the bronze age. This race builds the lake-dwellings and *terremare* and its civilization develops gradually into that of Villanova. Brizio, however, brings no new race in until late in the bronze age. The *Umbri* then appear, bringing with them the Villanova culture ready-formed. The *terramara* culture is thus due to the old *Liguri* and is a *cul-de-sac*.

Conflict between the two theories.

We must now proceed to consider which of the two theories is the more tenable, and this I propose to do by showing the insuperable difficulties which beset that of Brizio.³

Difficulties of Brizio's theory.

The first difficulty arises out of the very nature and form of a *terramara*. According to Brizio many of the *Liguri* must at some period have ceased to live in huts and begun to build *terremare*, there being no true lake-dwellings in Reggio. Now the very construction of a *terramara* shows it to be not a novelty but a survival. It is not the form of village that would be chosen by a people

l. *Terremare* essentially a survival.

¹ op. cit., p. xciii.

² *Monumenti archeologici della provincia di Bologna*, p. 10.

³ It is in all reverence that I attempt this criticism of the views of one who no longer lives to defend his case, and from whom I experienced the greatest personal kindness. I use his name as that of the ablest and greatest exponent of the 'Ligurian' theory of the *terremare*.

used to dwell in a dry district and now compelled to cope with a marshy one. It is, on the other hand, exactly what one would expect from a people used to dwelling in lakes and marshes, and now confronted with the problem of forming a settlement on dry land. The custom of time immemorial has had its cumulative effect on their minds. After the security afforded by dwelling on piles and surrounded by water they cannot bring themselves to settle down in exposed huts, and therefore they attempt to reproduce as far as they may the conditions under which they lived in the lakes.

Terramara
of the
dead.

In this context the ' *terramara* of the dead ' at Castellazzo becomes of great importance. We do not know what form the cemeteries of these people took in the days when they still dwelt in lakes. Whatever it may have been, there is surely only one interpretation of the pile-built cemetery at Castellazzo, and that is as a survival from the days of true lake-dwellings. Even supposing it possible that the old hut-dwellers of neolithic Italy built in later days pile-dwellings for the living, by no possible stretch of imagination can we represent them as building them for the dead. The fact is that the theory which attributes the *terremare* to the *Ibero-Liguri* involves an obvious reversal of facts. A *terramara* is a fact which presupposes not only lake-dwellings but ages of lake-dwellings.

Terremare
on hills.

This argument, namely, that the *terramara* denotes a survival, is supported by the fact that it is often found in positions wholly unsuited to it, that is to say, on hills. Pigorini collects the instances of this,¹ and cites the *terremare* of Roteglia, Castellarano, Castelnovo Fogliani and Montata dell' Orto. Two of these, Castelnovo and Montata, have all the essential characteristics of *terremare*, orientation, quadrilateral shape, rampart, *contrafforte* and moat, besides, of course, the pile-structure. That of Roteglia has the rampart and the pile-structure, while that of Castellarano has only the pile-structure. The building of a *terramara* on a hill shows a type of dwelling surviving in circumstances in which it is unsuitable or at least

¹ *B. P.*, xxix, page 203, note 40.

unnecessary, not a type newly invented to cope with altered conditions.

Finally, why, if the *Ibero-Liguri* built the *terremare*, did they surround them with fortifications consisting of a moat, a rampart and *contrafforte*? One answer which has been given to this is that these fortifications were not set up against human foes but against floods. Two considerations, however, are fatal to this argument. In the first place, simple hydrostatic reasons show that for this purpose a moat is at least useless, if not dangerous. The pressure at any point on an object under water varies directly as the depth of the water at that point. Therefore, by digging a moat outside the rampart, the latter is subjected at its base to a very heavy and quite unnecessary pressure. In the second place, even admitting that the condition of the land in question seems to have undergone great changes in short spaces of time, how did the inhabitants of the hut-foundations manage to survive these floods. That they did so we can certainly argue from the existence in the *terramara* country of hut-foundations, the contents of which show them to belong to the same date as the *terremare*. We may instance the hut-villages of Fiastri and Romei. If it is replied to this that not all points in the district were subject to floods, then why did the *Ibero-Liguri* choose the cumbrous expedient of building *terremare* instead of the more simple one of settling on a safer spot? Surely reason suggests that if the plains in which the people lived suddenly became subject to floods they would take to higher ground.

But instead of this we are asked to believe that they preferred to give battle to the elements and hold their ground, building, be it added, constructions displaying a knowledge of such work which could only be possessed by a race accustomed for generations past to deal with vast problems of hydrostatical engineering.

The theory of floods cannot explain the presence of the rampart and the moat.¹ They are defensive constructions against enemies. Now, supposing that the *Ibero-Liguri* built the *terremare*, why did they need these elaborate

¹ Above all at Taranto, where there could be no floods.

defence-works? We can point to few hut-settlements that have even a wall to defend them. Why, then, this sudden change of custom? It could only be explained by the arrival of a new and hostile race, which is the very thing which on the hypothesis itself has not happened. If, however, we ascribe the *terremare* to a race of invaders who have perhaps to force their way in by arms, we can understand the need of defence-works. Even supposing their advance to have been unopposed, which is unlikely, at least in its earlier stages, the moat and rampart explain themselves as simple survivals, as an attempt to reproduce artificially the natural security afforded by dwelling in the water.

The hypothesis of the *Italici* seems to leave no fact unexplained. That of the *Ibero-Liguri*, in order to explain anything at all, gives to a series of interconnected facts an order which is manifestly the reverse of that in which it was developed.

3. Chrono-
logical
difficul-
ties of
Brizio's
view.

But there are other considerations which prove fatal to this theory of Brizio. It involves, in the first place, two chronological absurdities. One of these we have already discussed in Chapter XV. It was pointed out that the very stations which he takes as marking the transition from the neolithic to the *terramara* period are themselves coeval with quite advanced *terremare*, and that the material which they contain is not a transition material at all. In the second place, he asserts that the *terremare* were still being inhabited west of the Panaro at a time when the Villanova people (his *Umbri*) were already enjoying the early iron age culture east of the river. And we are asked to believe that, despite the fact that these two peoples lived side by side, separated only by a river, no communication took place between them, for no *terramara* has ever yielded material of Villanova type, not even a single Villanova fibula.

4. How
does
Brizio
explain
crema-
tion?

Most difficult of all to explain on Brizio's hypothesis is the change of burial rite between the neolithic and the *terramara* age. When we are told that a people change their rite from inhumation to cremation we are certain to ask for very definite evidence. And yet such a change must have occurred, if, as Brizio asserts, there was no change of popula-

tion. Brizio supports his hypothesis by affirming that the change was gradual, and to prove this he cites the cemetery of Povegliano Veronese, where, among inhumation graves, some ossuaries containing burnt burials were found. He takes this to represent a transition stage when both methods were in use. In the first place, the cremations at Povegliano are almost certainly later than the inhumations, and belong probably to the iron age, and, in the second place, the furniture which accompanied the bodies is extremely late and belongs to the very end of the *terramara* period, whereas in the true *terramara* cemeteries, which are certainly earlier than this, cremation is invariable.¹ Brizio also points to two discs made from human skulls, one from the *terramara* of Montecchio and the other from that of Montata. These recall the similar disc found in the Ligurian cave of the Arene Candide. He argues from this that the *terramara* people were *Liguri* because they preserved this old rite of carrying human amulets, and, moreover, that they inhumed their dead. It is scarcely necessary to point out that the discs found in the *terremare* need not belong to *terramara* people at all, and that even if they do it is still possible to cremate a body even after removing a piece of bone from the skull.

Cremation
not intro-
duced gra-
dually.

The fact that the *terramara* people cremated, and probably the lake-dwelling people too, though this cannot be proved for the earlier part of the bronze age, is the great stumbling-block for all who follow Brizio in the opinion that the *terramara* folk were *Ibero-Liguri*. Without a change of population they have to account for a change in burial rite. And it is not a mere change from inhumation to cremation. We know that the *Liguri* buried with the corpse a plentiful supply of objects, probably for use in the next life. Examine a *terramara* cemetery and we find that nine out of ten ossuaries contain nothing but the burnt bones and the ashes of the pyre. In other words the deposition of objects with the remains was not a part of the *terramara* ritual. This points to a change not only in rite but also in the ideas which underlie that rite; it can surely only be accounted for by a change in population.

Cremation
fatal to
Brizio's
hypothesis.

¹ op. cit., p. lxxxv.

5. *Terra-mara* pottery is not a continuation of neolithic.

Brizio further asserts that the material found in the lake-dwellings and *terremare* is a natural development of that of the neolithic period. He points out that many of the neolithic flint forms survived in the pile-dwellings, and that the wearing of shells as ornaments still continued.¹ Nothing is more natural. When bronze had once appeared the stone industry ceased to develop any further, and men contented themselves with the flint forms which already existed. And besides, what more probable than that the pile-dwellers imported large quantities of flints for rough work from the natives of the district in return for their precious bronzes. Had Brizio not carefully excluded pottery from his material he would never have ventured to speak of continuous development. The earliest pottery of the lakes is in complete contrast with that of neolithic times. The art of producing a fine polished surface is not to be seen in the lakes; the forms have altered completely and so, too, has the ornament. Nor is this the decadence of neolithic ware, for this last was still being produced not far from the lakes in the eneolithic settlements of Brescia and elsewhere. It is a new type of pottery brought in by a new people.

6. Brizio ignores external evidence.

Similar facts in Central Europe.

But Brizio's hypothesis has yet another disadvantage. It fails to take account of the great movement which towards the end of the neolithic age was taking place in Europe, I mean the establishment of the lake-dwellings of Central Europe. It is not a very extraordinary fact that men should choose to defend themselves by living in lakes; but that they should begin to do so in several adjoining countries at about the same date is likely to be more than a coincidence.

Having failed to account for the civilization of the *terremare* by internal development, we naturally ask whether it can be correlated with this great movement in Central Europe.

Pigorini, many years ago, pointed to the similarities between the lake-dwellings of Piedmont and Lombardy and those of Switzerland, and derived the former from the latter. The resemblances are considerable. In the first place

¹ op. cit., p. lxxxviii.

Swiss lake-dwellings.

cremation is common to both. It is true that the Swiss lake-dwellings have yielded numerous inhumation burials. At Auvernier a stone cist was found containing a number of skeletons with two stone celts and three early bronzes. But at S. Prex were found inhumations alternating with cremations. Moreover, Munro quotes an article by Heierli proving that in the transition from the stone to the bronze age cremated bodies were buried in urns under earthen mounds. This evidence, however, must not be overrated, for, in the first place, we cannot definitely affirm that the earliest Swiss lake-dwellers cremated, and, in the second place, neither can we affirm the same of the earliest Italian lake-dwellers, though the rite was universal among them in later times.

It is sometimes asserted that the Italian lake-dwelling folk resemble the early Swiss lake-dwellers in being brachycephalic. It is true that Virchow (quoted by Munro)¹ says that in the earliest Swiss lake-dwellings only brachycephalic skulls are known, and that in later times a dolichocephalic type appears and tends to predominate over the other. But in Italy we have no such data. No lake-dweller's skull has ever been found, for the simple reason that the people practised cremation. In 1864 Nicolucci declared the *terramara* folk to be brachycephalic on the evidence of two skulls found at Gorzano.² Unfortunately these were shown to be Roman. If, with Pigorini, we admit that the *terramara* people were the ancestors of the Romans then there is no further difficulty, they must have been brachycephalic since their descendants were; but to admit this at the present stage of inquiry would be to beg the question.

Thus at present the comparison of the Italian lakes with the Swiss gives us many probabilities but no certainties. There is, however, a considerable similarity in the material from the two districts.

When we come to the *terremare*, however, the evidence becomes much more satisfactory, and seems to prove beyond all doubt that the *terramara* civilization was brought to

¹ Munro, p. 537.

² Pigorini, in *B. P.*, xxi, p. 118. The whole of this article is important.

Danube
valley.

Italy by a new people from the Danube Valley. This is clear from the occurrence in two parts of that valley of stations showing resemblance to the *terremare* in the material they contain. These two regions are Hungary and Bosnia. Unfortunately excavation is yet young in both these countries and we do not know all the details to be desired.

Hun-
garian
'*terre-
mare*'.

Along the edge of the Danube, above and below Budapest, about twenty so-called *terremare* are known. They are settlements built on piles, but their exact shape is as yet uncertain and there is no mention of a moat or wall. Nor indeed were these necessary, as the settlements were generally built in flood-land. One of the most important is that of Toszeg, which contains three strata, neolithic, early bronze age and full bronze age. In all three were hearths with pyramidal clay 'loom-weights' around them, used apparently to support cooking-pots over the fire. It was ascertained that at least the two lowest strata had been structures supported on piles.

Toszeg.

Pottery.

Similar to
that of the
terremare.
a. Surface.

b. Orna-
ment.

It is above all on the pottery of these *terremare* that I wish to insist. It is a kind of *buccherò* with a polished black surface, rarely faded to yellow-grey, and it is in general appearance indistinguishable from that of the Italian *terremare*. Equally convincing is the ornament. It consists in incisions, usually so broad as to merit the name of furrows. In fact, it is the *canalatura* of the Italian *terremare* (cf. Pl. IV, fig. 5). With this are combined, just as in Italy, small circular pits, knobs of clay stuck on to the vase-surface and larger knobs modelled with the vase itself (cf. Pl. IV, fig. 10). Particularly reminiscent of the *terremare* of Italy is the ornament applied to the bottoms of vases, especially flat basins or ladles. In the centre is a large circular depression raising a corresponding hill inside the vase; around this, arranged symmetrically along two diameters at right angles, is a scheme of furrowed semicircles and small circular pits (cf. Pl. IV, fig. 5). A good example of this occurs at Toszeg and another at Sarkad. We may note, too, the furrows which encircle the large projecting knobs just as in Italian examples. Finally, we have also earthenware animals, sets of ritual vases of miniature size, and of shapes known in the

c. Earthen-
ware
figurines.

Italian *terremare*, small fillers or *fischietti* identical with those of Italy (cf. fig. 194), the small earthenware spoon, and last of all the *ansa cornuta*. This evidence is surely overwhelming and proves that the Italian *terremare* are closely connected with those of Hungary, and have a Danubian origin.

Even in Bohemia, where *terremare* are as yet unknown, we find a civilization closely resembling the Italian and having perhaps the same origin. In the graves with squatting skeletons the Italian lake-dwelling cup is common. At Chlum u Podboře occurs a bowl with three short vertical strips of clay near the rim, a favourite Italian device (cf. Pl. III, fig. 11); in bronze age hoards we find both forms of *terramara* dagger, the triangular and the leaf-shaped, together with the bronze-hilted dagger and the celt with flanged edges or with wings. At Korno Ivymburk we find the pin with three circles at its head (cf. fig. 185) and at Budéhostice the double-edged razor, which, it may be noted here, is also found at Pilin, in Hungary.¹ The evidence from Bosnia is unfortunately far less satisfactory than that from Hungary. Two pile-built settlements are known, but neither is early enough in date to be of much assistance to us. The pile-dwelling of Donja Dolina² was constructed on the bank of the Save. It had an outer wall or defence-work built out into the river to defend it against the stream, but this structure offers little similarity to the defence-works of a *terramara*, and to insist on the comparison would merely be to distort facts. The settlement belongs to the iron age and is attributed to the sixth to third centuries B.C. In close proximity to the pile-dwelling are cemeteries of the same date, containing both burnt and unburnt burials. The material found in the pile-dwelling, as might be expected from its date, does not show very close affinities with that of the *terremare*. In the pottery, however, I think we can trace certain survivals of forms perhaps in use among these people before they parted to descend into Italy and Bosnia respectively. The most

d. Ritual
vases.

e. *Ansa
cornuta*.

Bronzes of
terramara
type.

Bosnian
pile-
dwellings.

1. Donja
Dolina.

a. Form.

b. Date.

c. Ceme-
teries.

d. Material.

¹ All this material from Bohemia is in the museum at Prague.

² *Mittheilungen aus Bosnien und der Hercegovina*, vol. ix, p. 3.

striking of these are the shovel-vase (cf. Pl. IV, fig. 7) and the spoon-vase. Besides these must be noticed many vases with furrowed ornament on the bottom, arranged along two diameters at right angles, exactly as in the *terramara* vases (cf. Pl. IV, fig. 5).

2. Ripač. The pile-dwelling of Ripač, somewhat earlier than that of Donja Dolina, belongs to the late bronze age.¹ It is built across what is now a broad stream and has none of the essential characteristics of a *terramara*. The position of the piles, however, showed that a regular arrangement was adopted in building and that a wide road had been left down the centre of the structure with cross-roads running off from it at intervals at right angles. The objects found in the pile-dwelling do not, of course, show great similarity with those found in the *terremare*; we may notice, however, the presence of small terracotta figures of animals similar to those of the *terremare*.²

Bosnian
pottery.

In both the pile-dwellings under discussion the typical crescent-handle of the *terremare* is not uncommon.³ As a whole the bronze age pottery of Bosnia is, like that of the *terremare*, a black polished ware. More rarely it is grey or brown. The black ware is more frequent at Ripač than at Donja Dolina, and occurs almost invariably in vases with the crescent handle.

Compara-
sons
between
Bosnia
and
North
Italy.

It would be foolish to attempt to argue much from these data. There are indeed indications that in origin the Bosnian bronze age civilization was in some way bound up with that of the civilization of the *terremare*. The same tradition seems to be shown in the pottery, and there is considerable similarity in the bronzes; in the settlement of Motke, for example, occurs a bronze sickle of the *terramara* type.⁴ It must, however, be admitted that no pile-dwelling of the earlier part of the bronze age has yet been found in Bosnia, and that those few stations which can be definitely assigned to this period are ordinary villages

¹ op. cit., vol. v, p. 29.

² op. cit., v, Pl. XXIV, figs. 116-20.

³ op. cit., ix, Pl. XXV, figs. 5, 6, 8, 9; Pl. XXVII, figs. 4 and 7. I am indebted to Herr Vejsil Ćurčić for many of these details with regard to Bosnia.

⁴ op. cit., vol. vi, p. 21.

without any pile-structure. At the same time it is quite possible, to judge by the survivals, that further excavations will bring to light settlements akin to the *terremare* either in structure, or in respect of the material which they contain, or both. Meanwhile we can only insist on the significance of the finding of pile-structures in a country not naturally fitted for them, and the strong probability that their presence there is the result of a vast invasion of the upper Danube Valley, in which Hungary and Italy were also involved.

Much doubt has been cast on the value of the *ansa lunata* ^{*Ansa lunata.*} or *cornuta* as evidence for the Central European origin of the *terramara* people. The facts are as follows:—¹*Ansa lunata* in a simple form is found in the lake-dwellings of Eastern Lombardy and the Veneto and in the *terremare*, in bronze age hut-foundations and caves in the *terramara* country, and as far south as the cave of Frasassi, and finally in Central Italy in the Vibrata Valley, and in Campania at Pertosa and in the Grotta Nicolucci near Sorrento. Pigorini ² thinks this handle an importation of the *terramara* folk and takes it as a proof of their distinction in race from the *Liguri*. Brizio, however, who denies this distinction, says that the handle was already known in neolithic times in Italy, but none of the pretended neolithic examples are certain. The Frasassi, Monte Loffa, Colombo di Mori and Farneto examples all belong to the bronze age and are due to *terramara* influence, and the same explanation is possible in the case of the Campanian examples. The *anse lunate* of Coppa della Nevigata and Taranto are probably due to the *terramara* people themselves, though it is curious that the forms in these two stations are not very varied and are exactly those forms which occur in Bosnia. This may be mere coincidence, and in any case it is as yet too soon to draw any inference from the fact.

There is, in fact, no vestige of proof that *ansa lunata* was known to the neolithic people of Italy. Outside Italy this handle occurs in Bohemia, Lower Austria, Thuringia (late), ³Probably not a neolithic form.

¹ See especially *B. P.*, xv, p. 65.

4. Distribu-
tion in
Europe.

5. When
did it enter
Italy?

Styria, and the lake-dwelling of Cortaillod, and is common in the pile-dwellings of Hungary and Bosnia. We have every reason to connect it with the lake-dwelling people of Central Europe, who ultimately built the *terremare* of Italy. The first lake-dwellers who entered Italy did not bring it, for it is absent in Piedmont and West Lombardy. I am inclined to think that it entered Italy from the North-East even before the *terramara* people came, perhaps with an immigration of people of the same race who settled on the lakes of the Veneto and spread the *ansa lunata* as far west as Polada. In other words, this handle probably had its origin in the Danube Valley and barely reached Switzerland. Thus the first invaders of Italy, who probably came from Switzerland, did not bring it, and it arrived with a second invasion of the same people from further east, where the form originated. The *terramara* people, who would be yet a third branch of the same folk, brought it yet again, probably in more developed forms.

Conclu-
sion.

In conclusion, as to this most involved and debated question we may sum up as follows. The internal evidence for the identification of the lake-dwelling and *terramara* people with an invading race from Central Europe is overwhelming. That these people cremated at their first arrival in Italy is not proved, but very probable; that they invariably cremated in the full bronze age is absolutely certain. That they were brachycephalic is a necessary consequence of their identification with the cremating brachycephalic race of Central Europe, and is based upon no direct internal evidence. That the *ansa lunata* was a special property of this people, or of the branches of it which settled in the East of North Italy, is beyond dispute.

The external evidence derived from the Swiss lakes makes it probable that the earliest invasion took place from Switzerland or thereabouts, but does not amount to proof. On the other hand an examination of the Hungarian and Bosnian finds makes it practically certain that the *terramara* people of Italy came from the Danube Valley.

CHAPTER XIX

MYCENAEAN INFLUENCE IN ITALY

ABOUT Mycenaean influence in Italy much has been said and written. At first, in the early days of research in Italy, this influence was if anything underrated, whereas now the tendency seems to be to overrate it. We have seen examples of this. The fibula in its earliest form, the violin-bow shape, has often been regarded as a Mycenaean import. In Sicily it was thought to come direct from Greece, while the *terremare* were said to have received it from Greece by way of the Balkans. It has been pointed out that the evidence is rather against than in favour of such a view. Again, the sword which Naue classed as Type II is another product which has been attributed to the Mycenaean civilization without sufficient evidence.

We must therefore ask what certain proofs we have of relations between the Italian bronze age civilization and the late Aegaeon, generally called Mycenaean, corresponding in the main to the period of reoccupation of the later palace at Knossos (L. M. III).

In the first place, Mycenaean vases have been found in various parts of Italy. The Sicilian examples have been amply treated. At Taranto very late Mycenaean ware occurred in a separate stratum overlying the *terramara*. Similarly, late fragments were found at the settlement of Coppa Nevigata, whether in the main relic stratum or above it we have not yet been informed. The occurrence of geometric ware of an unknown type along with this is in keeping with the fact that the Mycenaean sherds are of the very latest type.

Mayer, in his account of the excavations at the Pulo of Molfetta, speaks of and figures Mycenaean sherds.¹ His

¹ Mayer, p. 141. On a second visit to Bari I found some of the sherds which he figures as Mycenaean. They are certainly not Mycenaean at all.

Mycenaean influence in Italy. Tendency to overrate it.

Mycenaean vases in Italy.
1. Sicily
2. Taranto.
3. Coppa della Nevigata.

4. Molfetta?

figures are not convincing and no Mycenaean fragments are to be found in the Bari museum, where, however, all the material is in confusion and not yet exhibited. But even on chronological grounds alone it is impossible that there should be Mycenaean ware at the Pulo of Molfetta.

5. Oria. Furtwängler and Loeschke figure two Mycenaean vases from Oria in Apulia.¹ They are *Bügelkannen* with very late ornament, and were brought away by Lenormant from San Cosimo, near Oria. The same authors mention a vase at Berlin from the von Koller collection at Naples, and two others from the Campana collection in the Louvre, all supposed to have been found in Lower Italy or Sicily.

6. Torcello. R. M. Dawkins has described four vases now in one of the small museums on the island of Torcello, in the lagoon of Venice.² They are of a late Mycenaean type and are said to have come from one of the adjacent islands in the lagoon.

My-
cenaean
trade up
the
Adriatic. If these vases were really found where they are said to have been they give a proof of Mycenaean trading right up to the top of the Adriatic. In the lower part of the Adriatic we have proofs of such trade at Taranto, Oria, Coppa Nevigata, and on the opposite coast in the islands of Cephallenia and probably Ithaca.³ It is interesting, though not surprising that the south-east corner of Italy was throughout all the prehistoric periods perhaps the greatest centre of trade in the country.

Supposed
My-
cenaean
building
at Nesa-
zio, near
Trieste. Finally must be considered certain fragments of supposed Mycenaean architecture found in Istria. They were discovered in excavating an iron age cemetery at Nesazio.⁴ There is not the least doubt that they are older than the cemetery itself, for when this was formed they were already in fragments. This is proved by the fact that one piece was found actually inside a grave, while another supported the stone which covered a grave and a third was incor-

¹ *Mykenische Vasen*, p. 48, and Taf. XXII, No. 164.

² *J. H. S.*, xxiv, 1904, p. 125.

³ *Revue Archéologique*, xxxvii, p. 128. Cf. also the Mycenaean tombs found on Cephallenia in 1908.

⁴ See *Atti Congr. Int. Roma*, 1903, vol. v, pp. 147-56, where some good photographs are reproduced.

porated in the retaining-wall which surrounded the cemetery. They must originally have formed part of a building which once stood near the site, and, already destroyed, was used in the formation of the cemetery

Stichotti describes the fragments as of three types, bases or plinths, covering-slabs, and beams or pilasters. The bases are ornamented on three of the sides and are rough-chiselled on top, from which it may be inferred that they were surmounted by a pillar of some sort. The pilasters are noticeable as having only one face and part of one side worked, so that they must have been set actually against the masonry. One fragment of a pilaster bears the lower part of a human figure in high relief.

1. Architectural fragments.

Stichotti believes that they are the remains of a building, the core of which was of rubble or brickwork, set on a plinth or base of worked stone, and covered in parts with pilasters and slabs of stone. He insists especially on the resemblance of the technique to that of woodwork.

The ornament usually consists in running spirals arranged in graceful designs. The simplest is a row of ordinary running spirals. More complex is a pattern of two parallel rows of running spirals, with the tangents or runners in the two rows running in opposite directions; or in two parallel rows joined all along by cross-tangents. An elegant pattern is a row in which alternate spirals are replaced by two smaller ones side by side. Finally must be mentioned a pattern of hooked crosses fitted into one another to form a veritable maze, and pairs of spirals joined by a curve in such a way that the whole resembles a Greek *Omega*.

2. Spiral ornament.

One of the plinths has above it the feet of a human figure, the rest of which is broken off, and beside them an object like a truncated cone with a triangular area hollowed out in its surface both front and back. Stichotti sees in this the remains of some kind of shrine and recalls the cone or aniconic image which is found between the horns of consecration in Cretan shrines.¹

3. Statues.

¹ See A. J. Evans, *Mycenaean Tree and Pillar Cult* in *J. H. S.*, 1901, esp. figs. 11 and 19.

Finally must be mentioned three fragments of statues in the round. The figures are stiff and rather flat, and are somewhat similar in style to the early Greek archaic work. In fact the moulding of the better-preserved of the figures may be well compared to that of the archaic statues generally called Apollo.

4. Remains
not My-
cenaeen.

With regard to these Nesazio fragments the following conclusions are almost certain. Firstly, if the statues belong to the same date as the building, this can hardly be earlier than the beginning of the sixth century B.C. In any case, even if the statues are later than the building, the fragments of figures actually attached to architectural pieces prevent our dating the building much earlier than this. Secondly, the spiral decoration, however much it recalls Mycenaean motives—and indeed it does very strongly—cannot for chronological reasons be called Mycenaean. Whether it is even a direct survival of Mycenaean influence in Istria we cannot yet say with certainty, but it must not be forgotten that around the north part of the Adriatic the spiral had been a favourite motive even in neolithic days.

Thus whoso wishes to prove the existence of Mycenaean influence in Istria will have to adduce much better evidence than the fragments of Nesazio, which are little earlier than the cemetery which they were used to build.

Novilara
stelai.

A confirmation of this late date is to be found in the *stelai* from Novilara, near Pesaro.¹ A *stèle* of stone, covered on one face with well-executed spiral ornament, was found many years ago, though the exact spot is not certain. Another *stèle* with a dialect inscription and a border of similar spiral work was found later between two graves in the iron age cemetery at Novilara. The finding of a spiral border to an inscription shows that this type of ornament was still in use in the northern part of the Adriatic at a comparatively recent period.

Conclu-
sions.

On the whole it may be said that the evidence for Mycenaean influence in Italy is rather slender. It is beyond doubt that the south-east corner of the peninsula carried

¹ *Mon. Ant.*, v, pp. 171-4, figs. 2, 2 a. 3. 3 a, 25, 28-30.

on a considerable trade with the Mycenaean Aegaeon, and if the Torcello vases can be trusted this trade must have been continued up to the north shores of the Adriatic. Beyond this and the fact that Sicily fell strongly under Mycenaean influence little can be said. On the western coast there is as yet no sign of Mycenaean trade, and the evidence given by Colini for Mycenaean influence in the *terremare* is very inconclusive.¹ The fibula and Naue's Type II sword are probably not Mycenaean at all; the clay figurines are found among *terramara* folk in Hungary and Bosnia, and do not for a moment presuppose Mycenaean influence. At the end of the bronze age such influence may, as Colini suggests, have begun to make itself felt. But on the whole the evidence tends to show that the *terramara* folk brought their civilization with them and developed it on their own lines, with little dependence on the higher culture of the Aegaeon.

¹ *B. P.*, xxix, pp. 71-3.

GLOSSARY OF ITALIAN WORDS

Accetta. A hatchet, set with its cutting-edge parallel to its handle. (Contrast *ascia*.)

Ansa. A handle.

Ansa a bastoncino. A handle formed by bending into shape a cylindrical stick of clay.

Ansa a canaletto. A handle consisting of a narrow string-hole pierced in the thickness of the vase wall.

Ansa ad ascia. A handle with an axe-shaped projection above.

Ansa a mazzuolo. An *ansa lunata* with horns cut off short.

Ansa a nastro. (1) A handle formed by bending into shape a strip of clay of ribbon shape. (Opposed to *ansa a bastoncino*.) (2) A broad tongue-shaped handle, set above the rim of a ladle.

Ansa a tubetto. A handle consisting of a small tube of clay fastened against the vase wall.

Ansa cilindro-retta. A handle with a vertical cylindrical projection above it.

Ansa cornuta. A handle with a projection above it shaped like a pair of horns. Interchangeable with *ansa lunata*.

Ansa lunata. A handle with a crescent-shaped projection above.

Area limitata. The enclosed area within the eastern half of a *terramara*.

Argine. The rampart of a *terramara*.

Ascia. An adze, set with its cutting-edge at right angles to its handle. (Contrast *accetta*.)

Bacino. A basin or bowl, usually on a high foot.

Bicchieri a campana. A cup shaped like an inverted bell.

Biddazze. Stone huts found in the neighbourhood of *nuraghi*.

Bottiglia. A vase shaped like an Italian wine-flask.

Bucchero. A type of black polished pottery used in several parts of Italy during the so-called Etruscan period.

Camera. A room or chamber. Hence *tomba a camera*, a tomb in the form of a room, whether brick-built or hewn in rock.

Canalatura. 'Furrow' ornament produced on pottery by incising with a blunt stick-end.

Capanna. A hut.

Capezzale. A head-rest. In rock-tombs, the low bench of rock on which the head of the corpse lay.

Cassetta. A coffin constructed in the ground by setting slabs of stone together, more or less accurately.

Coltello. A knife.

Coltello-ascia. A celt with broad curved cutting-edge of almost semi-circular form. (See fig. 167.)

Coltello-sega. A flint knife with saw-like edges.

Comune. A division of an Italian *provincia*.

Contrafforte. The wooden or stone buttress supporting the rampart of a *terramara*.

Covolo. A small rock-shelter.

Eneolitico. A name given to the earliest age of metals in Italy. (See p. 185.)

Fascia. A band. Pottery '*a fasce larghe*', pottery with broad bands of paint upon it.

Fibula. A clasp made on the safety-pin system.

Fibula ad arco di violino. Fibula shaped like a violin-bow.

Fibula ad arco semplice. Fibula shaped like a segment of a circle, i.e. with an arched bow.

Fibula ad arpa. Fibula shaped like a harp.

Fibula a gomito. Fibula with bow shaped like a bent arm.

Fibula a navicella. Fibula with arched bow and long catch-plate, resembling a ship with long bowsprit.

Fibula serpeggiante. Fibula with one or more cusps in the bow; the so-called broken-backed type.

Finestra. A window. Hence any

- aperture, especially in a rock-tomb.
- Finestrino*. Diminutive of *finestra*.
- Fischietto*. Literally a whistle. Hence a *terramara* vase of a type by some believed to have served as a whistle. More probably a strainer.
- Fonderia*. A foundry for metals.
- Fondo*. (1) The bottom, of a vase &c. (2) The foundation. Hence *fondi di capanne*, hut-foundations.
- Forno*. An oven. *Tomba a forno*, a rock-cut tomb shaped like an Italian oven, i.e. circular in plan and pointed at the top, like a beehive.
- Fossa*. A ditch or trench. (1) *Tomba a fossa*, a grave in the form of a rectangular or nearly rectangular trench. (2) The moat of a *terramara*.
- Gigante*. A giant. Hence *tombe di giganti*, tombs of expanded dolmen type in Sardinia.
- Graffiti*. Incisions of any kind, usually on stone or pottery.
- Grotta*. A cave.
- Iberi*. Used as a general term for the race of neolithic Spain.
- Ibero-liguri*. The neolithic race of Spain and Italy, assuming it to have been one and the same.
- Impasto*. The prepared clay of which pottery is made.
- Italici*. A name given to the *terramara* folk by those who believe them to be a race of invaders.
- Liguri*. The neolithic race of Italy, which was dolichocephalic and practised inhumation. As used by most Italian archaeologists it is synonymous with *Ibero-liguri*.
- Nicchia*. A niche, especially in a rock-tomb or *nuraghe*.
- Nicchione*. A large niche. (The intensive ending has very little force.)
- Nuraghe*. A type of prehistoric stone dwelling found in Sardinia.
- Occhio*. Literally, an eye. Hence a hole in a fibula, an axe &c.
- Occhiello*. Diminutive of *occhio*.
- Ocra rossa*. Red ochre.
- Officina*. A workshop for flint implements.
- Padiglione*. The unroofed approach to a rock-tomb.
- Palafitta*. (1) Originally the piles and staging of a lake-dwelling or *terramara*. (2) Used in the special sense of a lake-dwelling as distinguished from a *terramara*.
- Pasta*. The prepared clay of which pottery is made.
- Piazza*. A large paved open space.
- Pietre fitte*. 'Fixed stones,' i.e. *menhirs*.
- Pintadera*. A stamp used to impress a pattern in colour on the body.
- Pozzo*, *pozzetto*. (1) A pit or well. *Tomba a pozzo*, a grave in the form of a narrow pit, usually circular in plan. (2) Used also for the shaft which gives access to an underground rock-tomb.
- Punta*. A sharp-pointed implement of flint, roughly worked.
- Rasoio*. A razor.
- Ripostiglio*. A hoard of bronzes or other valuable objects.
- Sbieco*. The cutting-edge of an implement is said to be a *sbieco* when the two planes that form it have different inclinations to what would be otherwise the plane of symmetry of the implement.
- Scarnimento*. Cutting the flesh off the dead body before burial.
- Scarnitura* = *Scarnimento*.
- Scodella*. A basin.
- Sese*. A type of stone-built tomb found in Pantelleria.
- Sicani*. Used to represent the neolithic people of Sicily.
- Siculi*. The people who inhabited Sicily, and, according to some, South Italy also, in the bronze age.
- Stecca*. A small stick or piece of wood.
- Tana*. A cave, literally the hole or lair of an animal.
- Terramara*. A pile-dwelling built on dry land, trapezoid in form, orientated, and surrounded by a rampart and moat.
- Tremolo*. An undulating line.
- Tufa* or *tufo*. A volcanic rock.
- Umbri*. A name given to the iron age inhabitants of North Italy (the Villanova people) by those who consider them to have entered Italy towards the end of the bronze age.

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PLATE I



Neolithic Period

PLATE II



Neolithic and Eneolithic Periods

PLATE III



Lake-dwelling Pottery

PLATE IV



Lake-dwellings and *terremare*

PLATE V



Lake-dwellings (figs. 1-3) and *terremare*

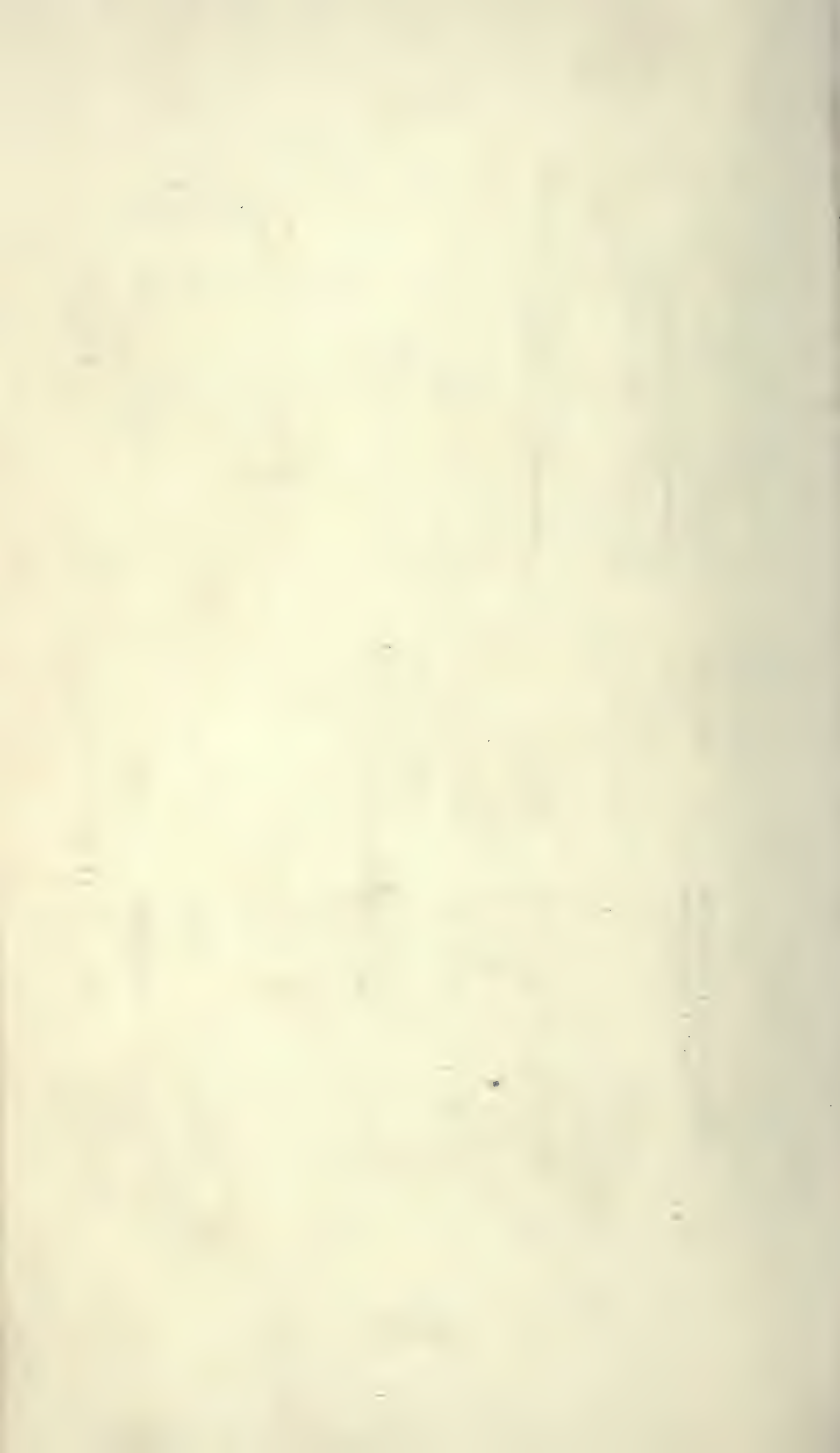


PLATE VI



Bronze Age, hut-villages and caves

ITALY

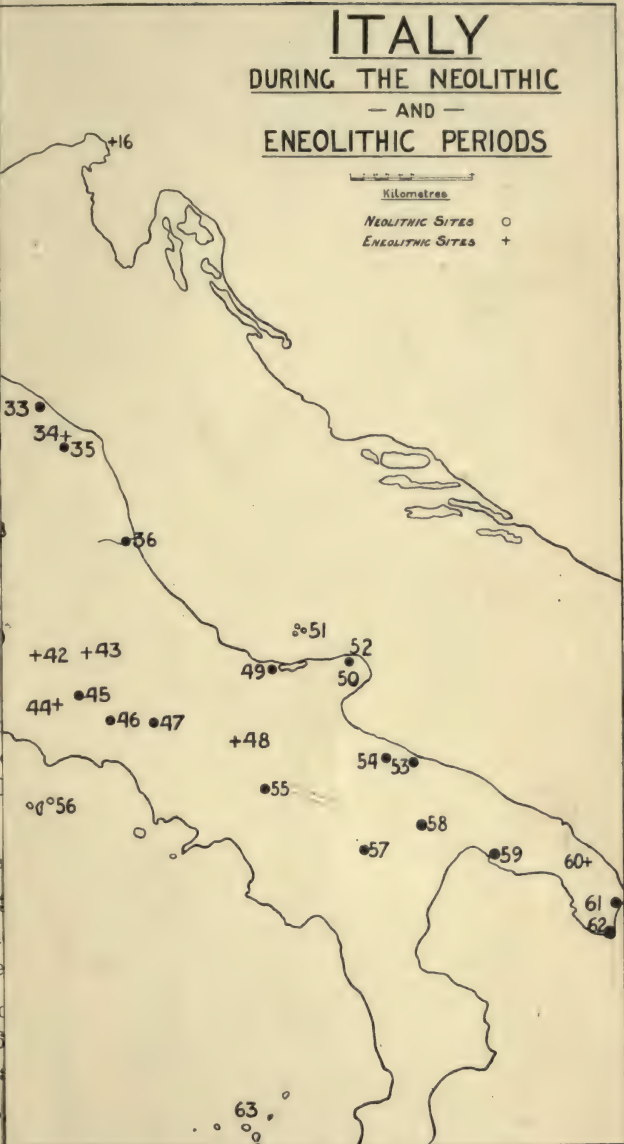
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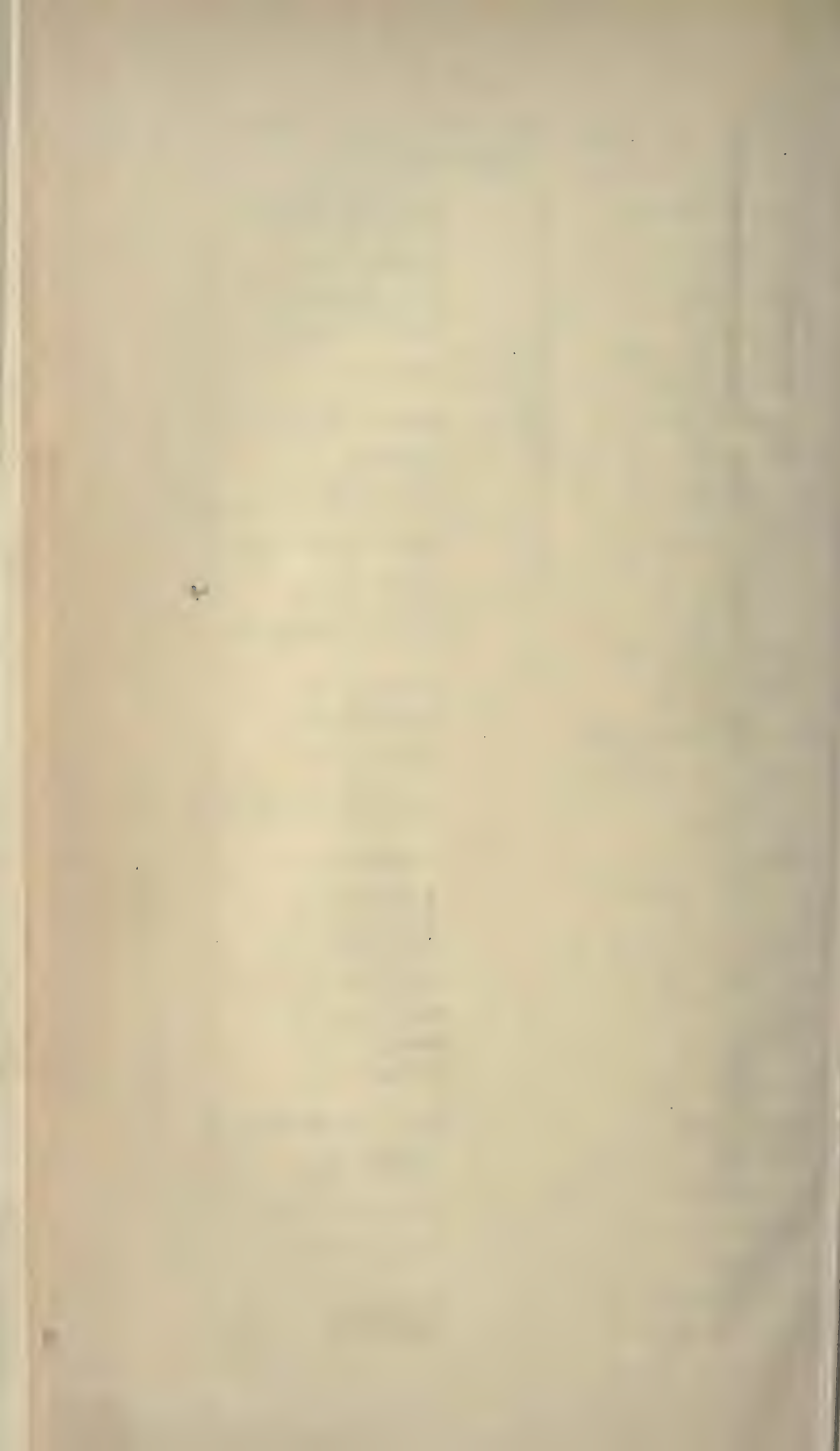
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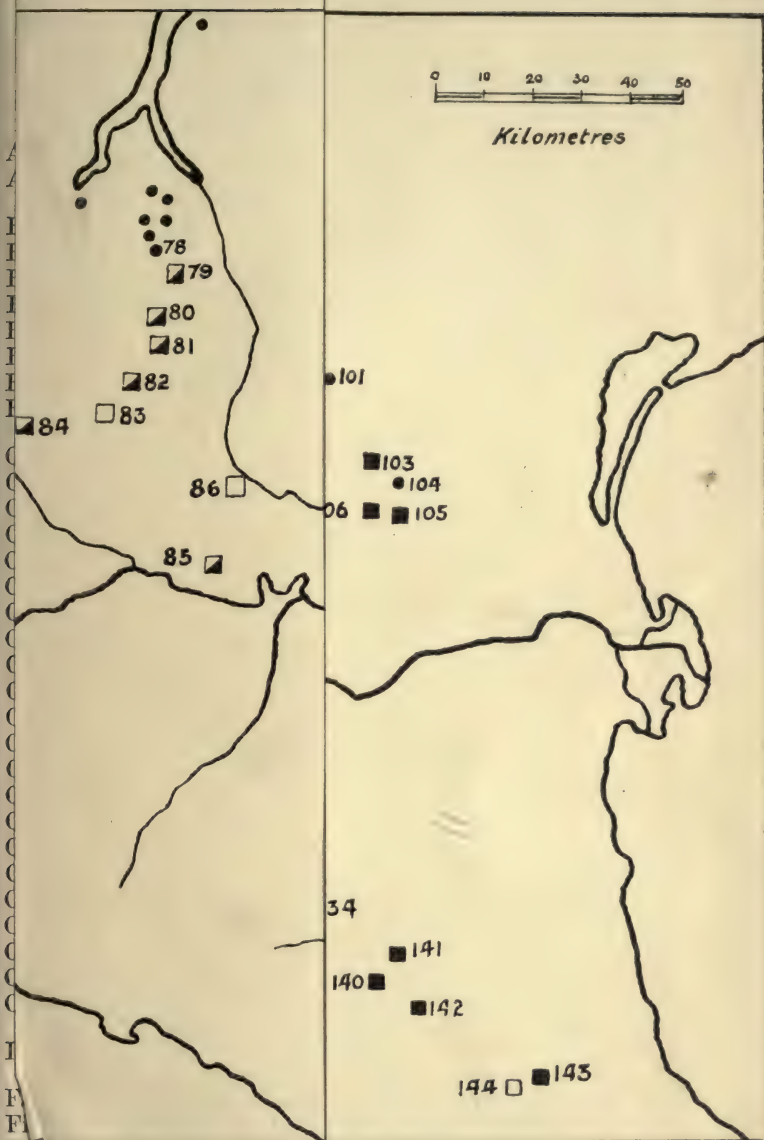
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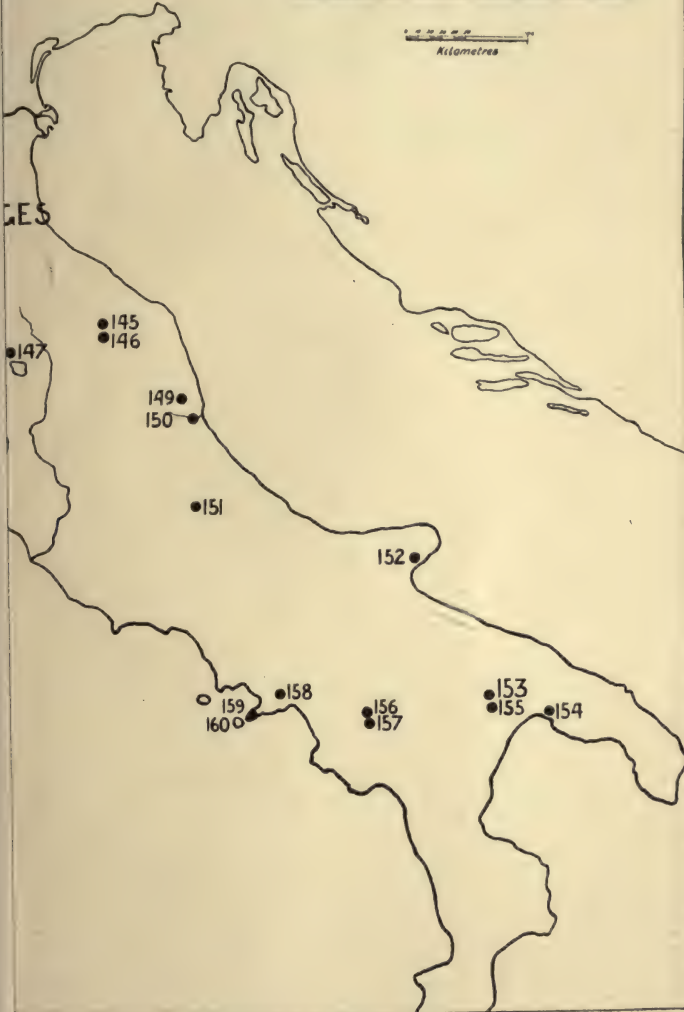


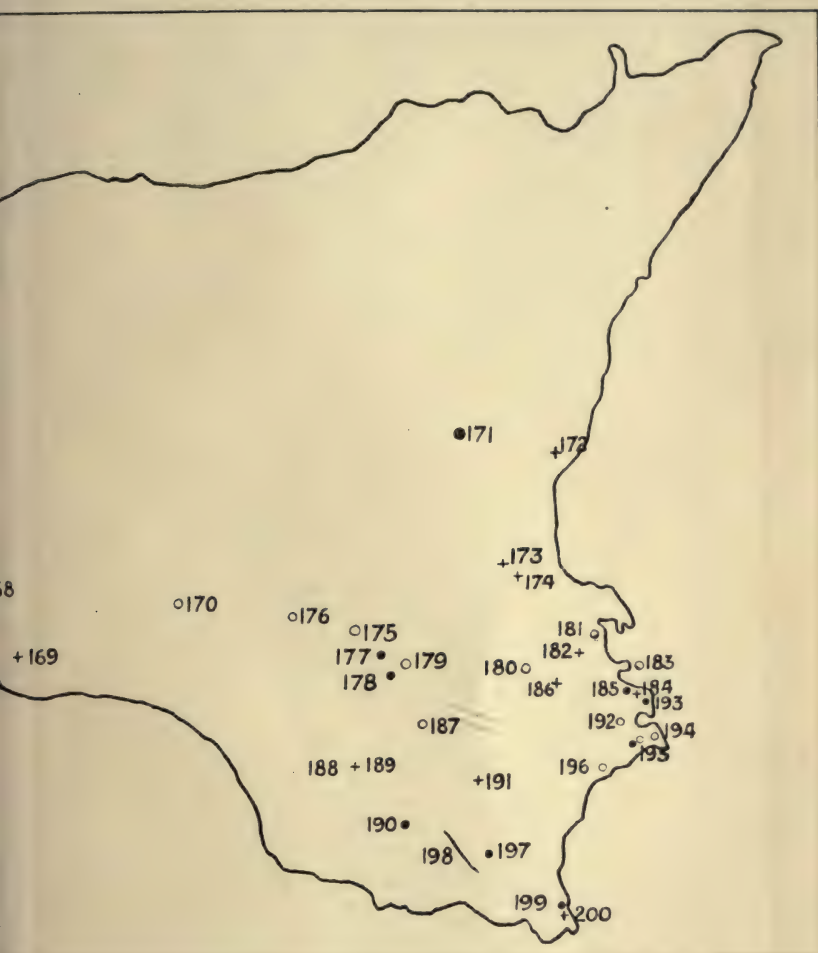
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